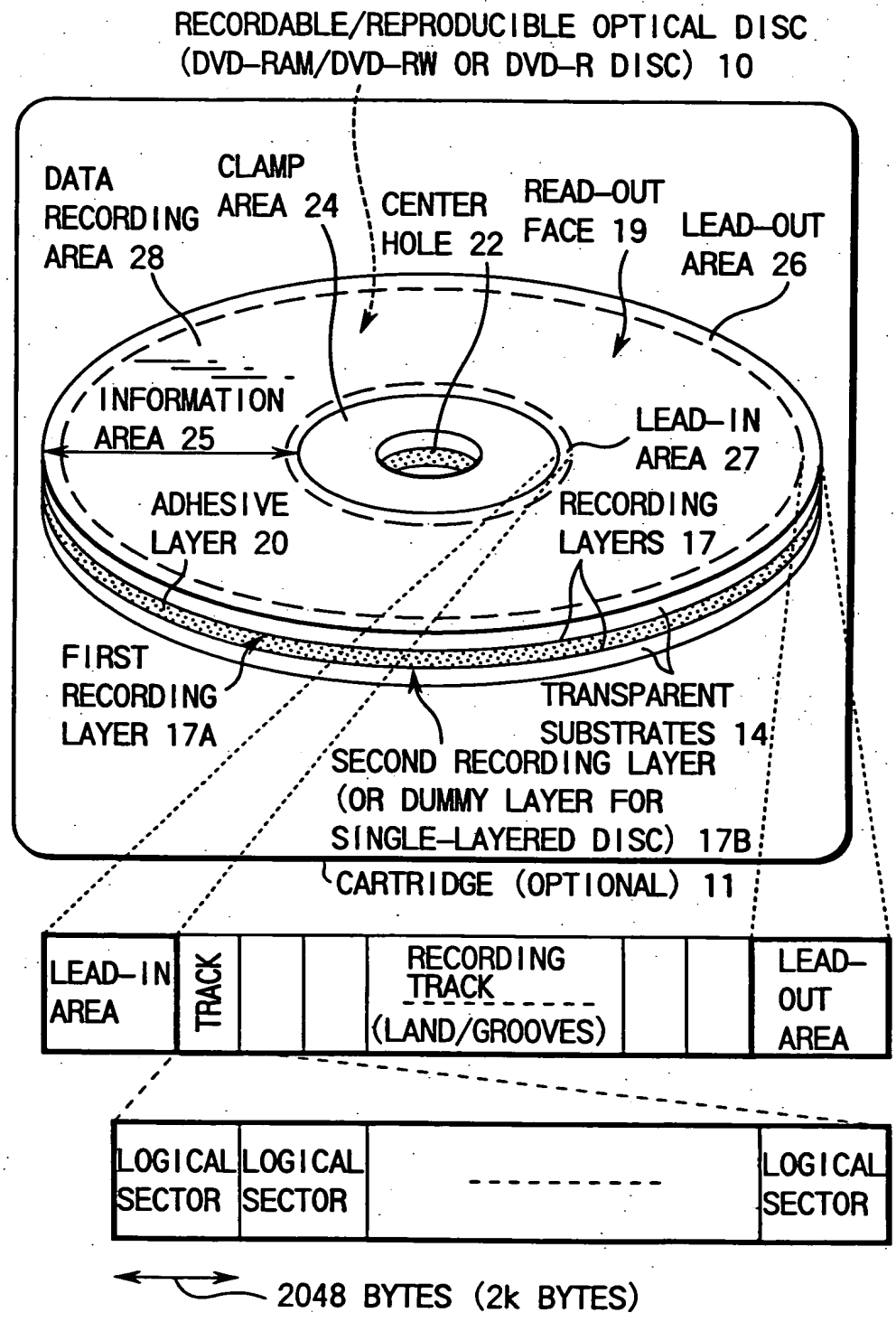

RECORDABLE/REPRODUCIBLE OPTICAL DISC
(DVD-RAM/DVD-RW OR DVD-R DISC) 10
DATA RECORDING AREA 28
CLAMP AREA 24
CENTER HOLE 22
READ-OUT FACE 19
LEAD-OUT AREA 26
INFORMATION AREA 25
LEAD-IN AREA 27
ADHESIVE LAYER 20
RECORDING LAYERS 17
FIRST RECORDING LAYER 17A
TRANSPARENT SUBSTRATES 14
SECOND RECORDING LAYER
(OR DUMMY LAYER FOR
SINGLE-LAYERED DISC) 17B
CARTRIDGE (OPTIONAL) 11
LEAD-IN AREA
TRACK
RECORDING TRACK
(LAND/GROOVES)
LEAD-OUT AREA
LOGICAL SECTOR
LOGICAL SECTOR
LOGICAL SECTOR
2048 BYTES (2k BYTES)

FIG. 1

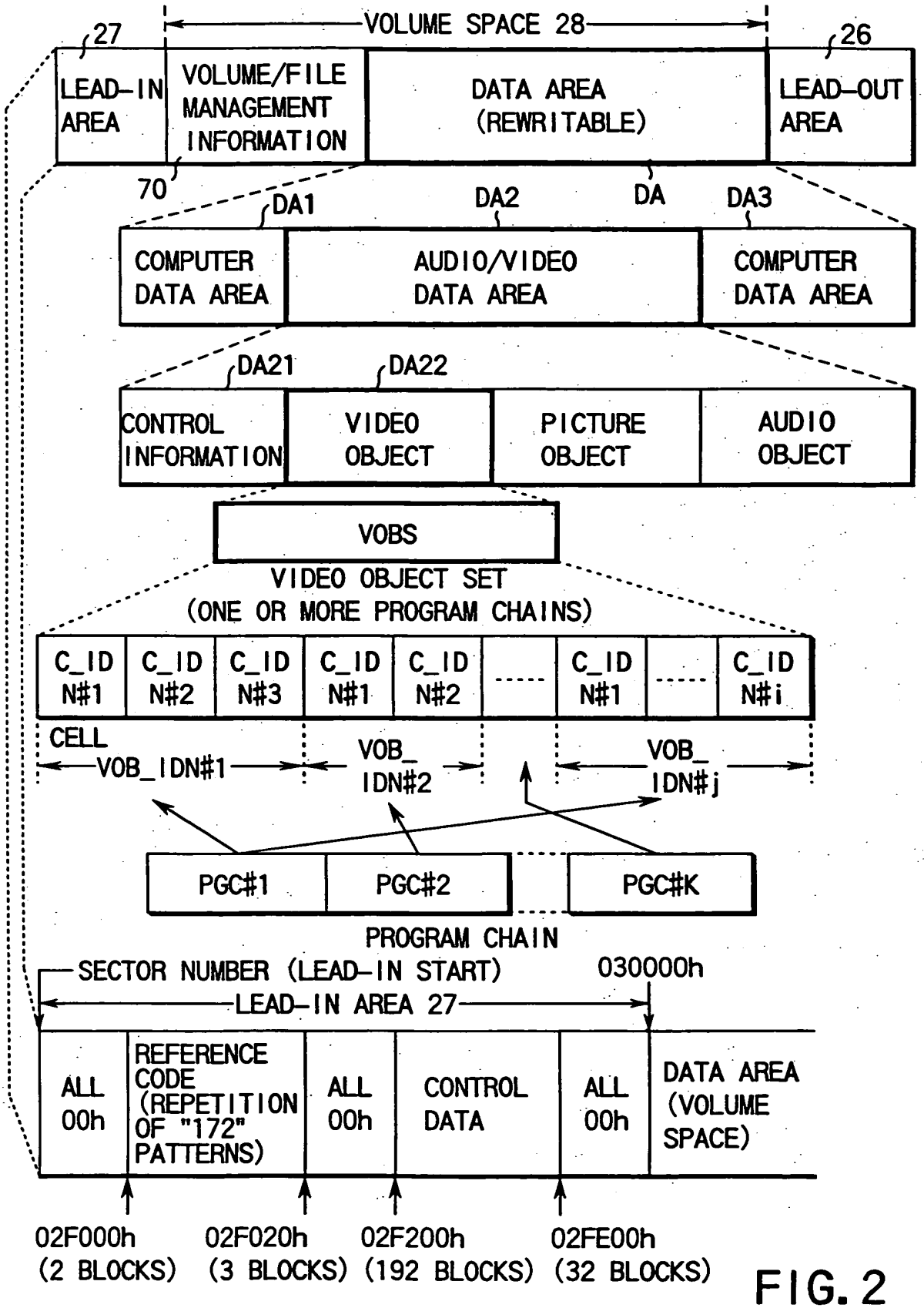

VOLUME SPACE 28
27
26
LEAD-IN AREA
VOLUME/FILE MANAGEMENT INFORMATION
DATA AREA (REWRITABLE)
LEAD-OUT AREA
70
DA1
DA2
DA
DA3
COMPUTER DATA AREA
AUDIO/VIDEO DATA AREA
COMPUTER DATA AREA
DA21
DA22
CONTROL INFORMATION
VIDEO OBJECT
PICTURE OBJECT
AUDIO OBJECT
VOBS
VIDEO OBJECT SET
(ONE OR MORE PROGRAM CHAINS)
C_ID N#1
C_ID N#2
C_ID N#3
C_ID N#1
C_ID N#2
C_ID N#1
C_ID N#i
CELL
VOB_IDN#1
VOB_IDN#2
VOB_IDN#j
PGC#1
PGC#2
PGC#K
PROGRAM CHAIN
SECTOR NUMBER (LEAD-IN START)
030000h
LEAD-IN AREA 27
ALL 00h
REFERENCE CODE (REPETITION OF "172" PATTERNS)
ALL 00h
CONTROL DATA
ALL 00h
DATA AREA (VOLUME SPACE)
02F000h (2 BLOCKS)
02F020h (3 BLOCKS)
02F200h (192 BLOCKS)
02FE00h (32 BLOCKS)

FIG. 2

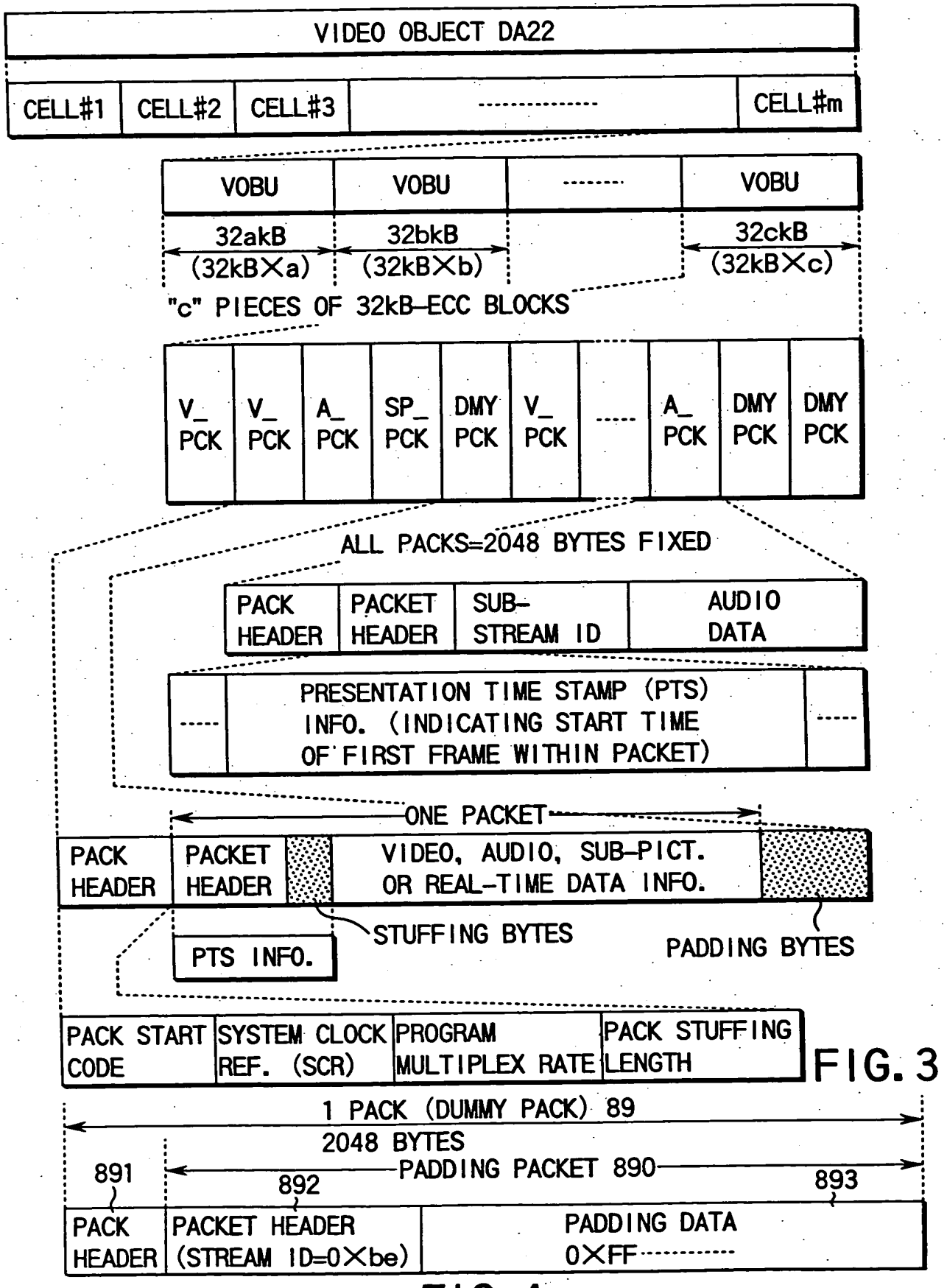

VIDEO OBJECT DA22
CELL#1
CELL#2
CELL#3
CELL#m
VOBU
VOBU
VOBU
32akB (32kB×a)
32bkB (32kB×b)
32ckB (32kB×c)
"c" PIECES OF 32kB-ECC BLOCKS
V_PCK
V_PCK
A_PCK
SP_PCK
DMY PCK
V_PCK
A_PCK
DMY PCK
DMY PCK
ALL PACKS=2048 BYTES FIXED
PACK HEADER
PACKET HEADER
SUB-STREAM ID
AUDIO DATA
PRESENTATION TIME STAMP (PTS) INFO. (INDICATING START TIME OF FIRST FRAME WITHIN PACKET)
ONE PACKET
PACK HEADER
PACKET HEADER
VIDEO, AUDIO, SUB-PICT. OR REAL-TIME DATA INFO.
STUFFING BYTES
PADDING BYTES
PTS INFO.
PACK START CODE
SYSTEM CLOCK REF. (SCR)
PROGRAM MULTIPLEX RATE
PACK STUFFING LENGTH

FIG. 3


1 PACK (DUMMY PACK) 89
2048 BYTES
PADDING PACKET 890
891
892
893
PACK HEADER
PACKET HEADER (STREAM ID=0×be)
PADDING DATA 0×FF

FIG. 4

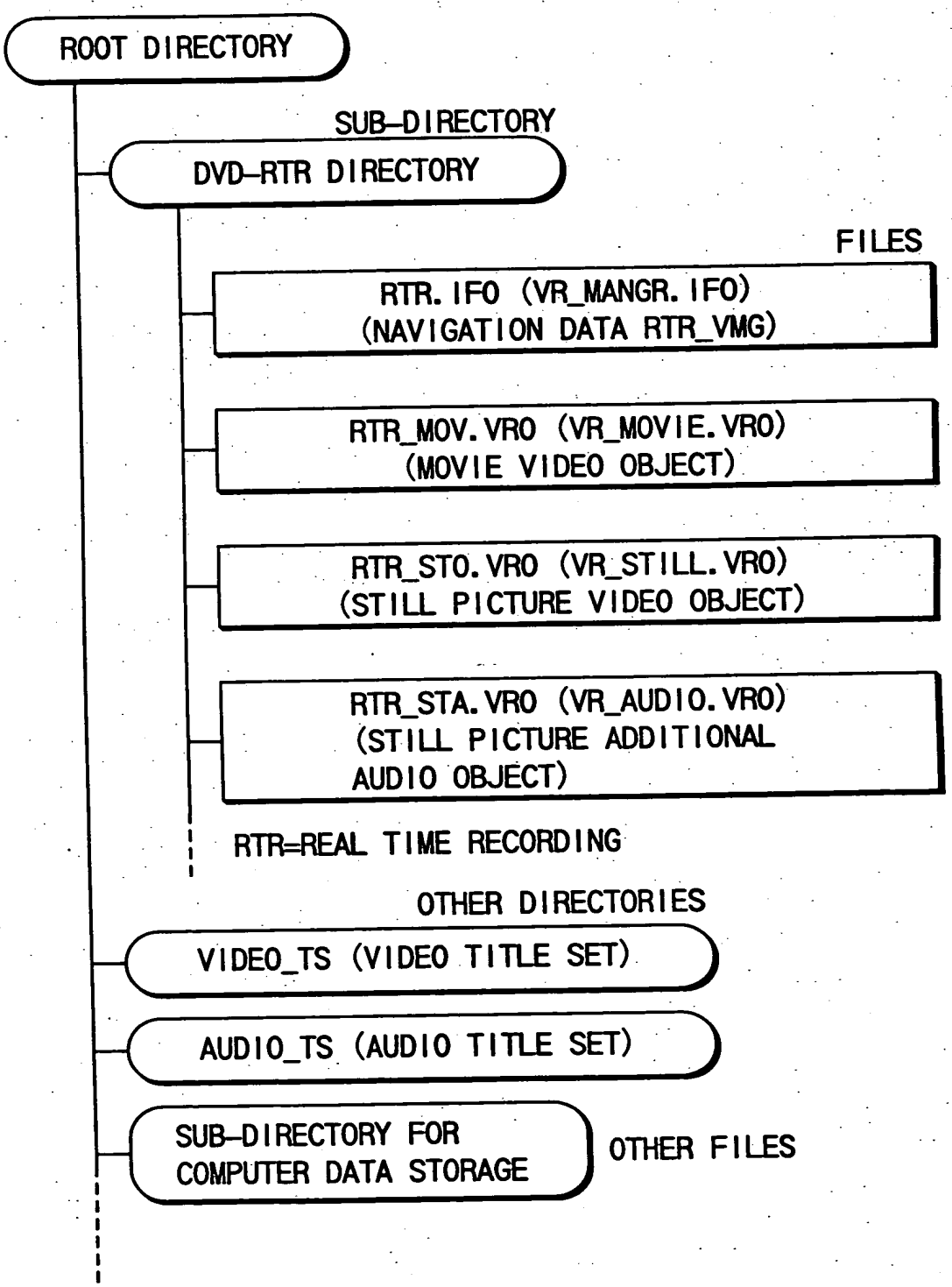

ROOT DIRECTORY
SUB-DIRECTORY
DVD-RTR DIRECTORY
FILES
RTR.IFO (VR_MANGR.IFO)
(NAVIGATION DATA RTR_VMG)
RTR_MOV.VRO (VR_MOVIE.VRO)
(MOVIE VIDEO OBJECT)
RTR_STO.VRO (VR_STILL.VRO)
(STILL PICTURE VIDEO OBJECT)
RTR_STA.VRO (VR_AUDIO.VRO)
(STILL PICTURE ADDITIONAL
AUDIO OBJECT)
RTR=REAL TIME RECORDING
OTHER DIRECTORIES
VIDEO_TS (VIDEO TITLE SET)
AUDIO_TS (AUDIO TITLE SET)
SUB-DIRECTORY FOR
COMPUTER DATA STORAGE
OTHER FILES

FIG. 5

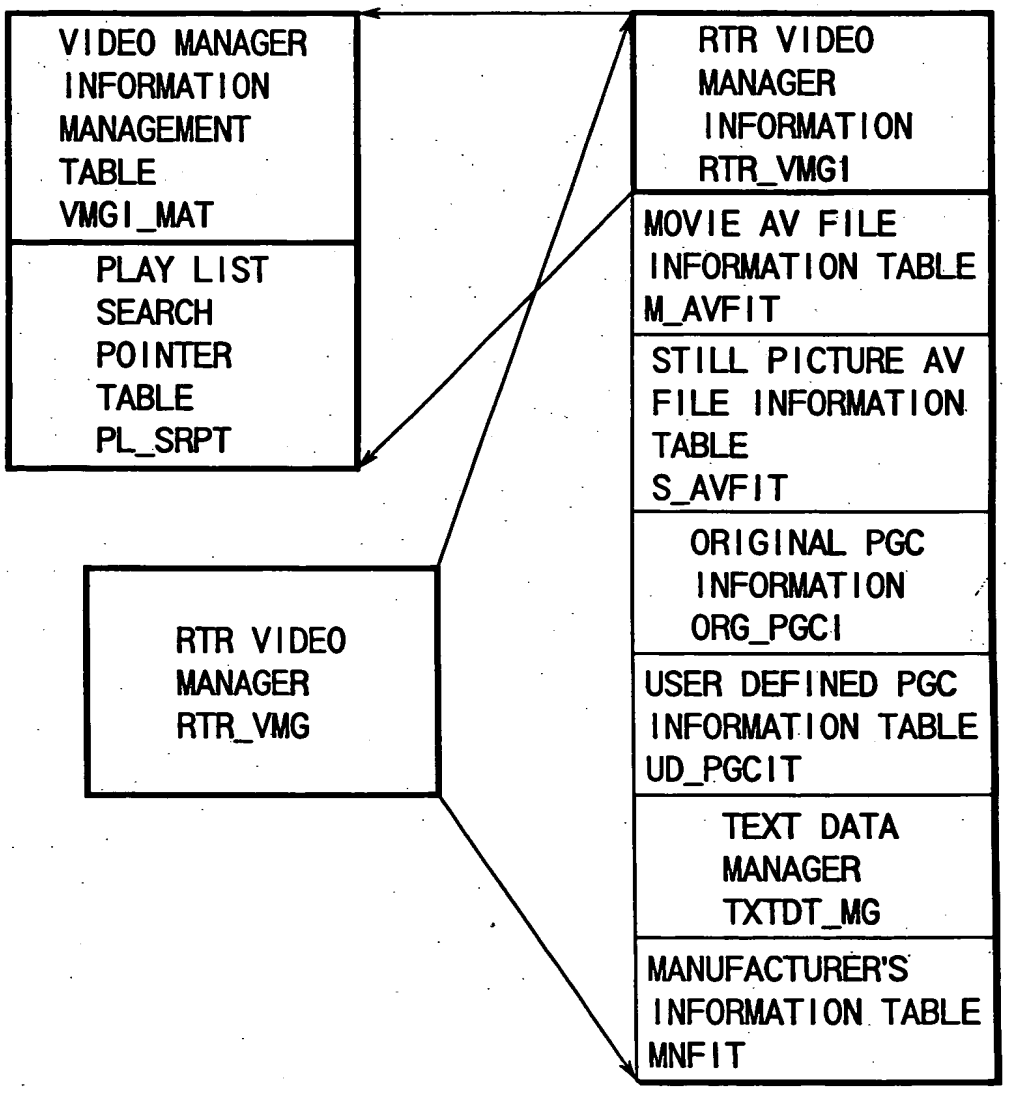

VIDEO MANAGER INFORMATION MANAGEMENT TABLE VMGI_MAT
PLAY LIST SEARCH POINTER TABLE PL_SRPT
RTR VIDEO MANAGER RTR_VMG
RTR VIDEO MANAGER INFORMATION RTR_VMGI
MOVIE AV FILE INFORMATION TABLE M_AVFIT
STILL PICTURE AV FILE INFORMATION TABLE S_AVFIT
ORIGINAL PGC INFORMATION ORG_PGCI
USER DEFINED PGC INFORMATION TABLE UD_PGCIT
TEXT DATA MANAGER TXTDT_MG
MANUFACTURER'S INFORMATION TABLE MNFIT

FIG. 6

CONTENTS OF VIDEO MANAGER INFORMATION MANAGEMENT TABLE (VMGI_MAT)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0-11 | VMG_ID | VMG IDENTIFIER |
| 12-15 | RTR_VMG_EA | END ADDRESS OF RTR_VMG |
| 16-27 | RESERVED | RESERVED |
| 28-31 | VMGI_EA | END ADDRESS OF VMGI |
| 32-33 | VERN | VERSION NUMBER OF DVD SPECIFICATION FOR VIDEO RECORDING |
| 32-127 | RESERVED | RESERVED |
| 128-129 | TM_ZONE | TIME ZONE |
| 130-131 | STILL_TM | STILL TIME FOR STILL PICTURES |
| 132-133 | CHRS | CHARACTER SET CODE FOR PRIMARY TEXT |
| 134-148 | RSM_MRKI | RESUME MAKER INFORMATION |
| 149-163 | REP_PICTI | DISC REPRESENTATIVE PICTURE INFORMATION |
| 164-191 | RESERVED | RESERVED |
| 192-195 | M_AVFIT_SA | START ADDRESS OF M_AVFIT |
| 196-199 | S_AVFIT_SA | START ADDRESS OF S_AVFIT |
| 200-207 | RESERVED | RESERVED |
| 208-211 | ORG_PGCI_SA | START ADDRESS OF ORG_PGCI |
| 212-215 | UD_PGCIT_SA | START ADDRESS OF UD_PGCIT |
| 216-219 | TXTDT_MG_SA | START ADDRESS OF TXTDT_MG |
| 220-223 | MNFIT_SA | START ADDRESS OF MNFIT |
| 224-511 | RESERVED | RESERVED FOR FUTURE USE |

RBP=RELATIVE BYTE POSITION

FIG. 7

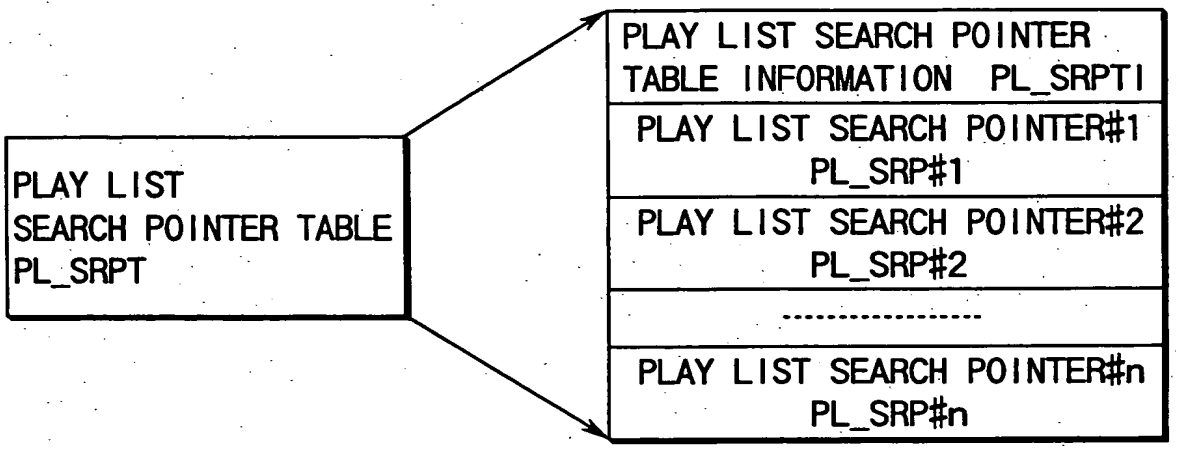



FIG. 8

CONTENTS OF PLAY LIST SEARCH POINTER TABLE INFORMATION (PL_SRPTI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0-2 | RESERVED | RESERVED |
| 3 | PL_SRP_Ns | NUMBER OF PLAY LIST SEARCH POINTERS |
| 4-7 | PL_SRPT_EA | END ADDRESS OF PL_SRPT |

RBP=RELATIVE BYTE POSITION

FIG. 9

CONTENTS OF PLAY LIST SEARCH POINTER (PL_SRP)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0 | RESERVED | RESERVED |
| 1 | PL_TY | PLAY LIST TYPE |
| 2 | PGCN | PGC NUMBER |
| 3–7 | PL_CREATE_TM | TIME WHEN PLAY LIST WAS CREATED |
| 8–135 | PRM_TXTI | PRIMARY TEXT INFORMATION |
| 136–137 | IT_TXT_SRPN | ITEM TEXT SEARCH POINTER NUMBER FOR THIS PLAY LIST IT_TXT_SRPN |
| 138–145 | THM_PTRI | THUMBNAIL POINTER INFORMATION |

RBP=RELATIVE BYTE POSITION

FIG. 10

CONTENTS OF THUMBNAIL POINTER INFORMATION (THM_PTRI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 138–139 | CN | CELL NUMBER |
| 140–145 | THM_PT | THUMBNAIL POINT |

RBP=RELATIVE BYTE POSITION

FIG. 11

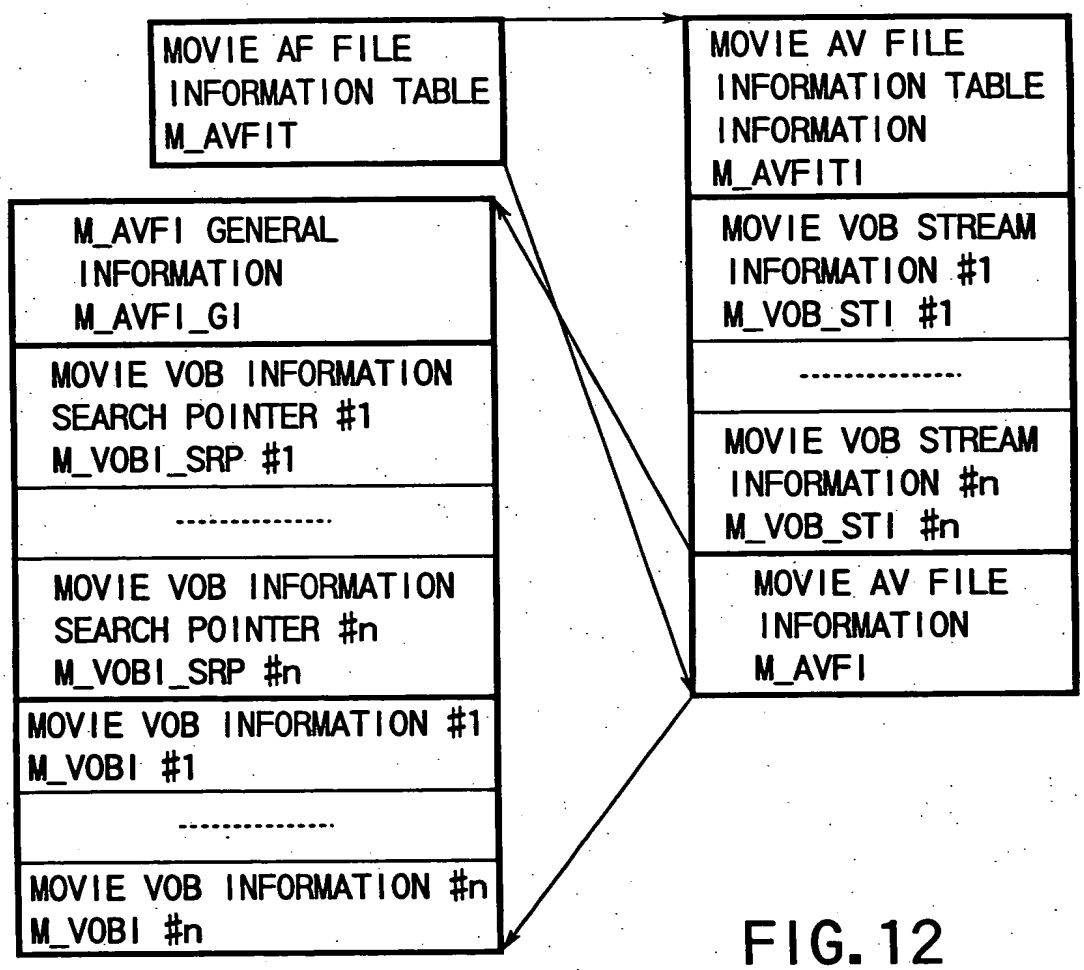

MOVIE AF FILE INFORMATION TABLE M_AVFIT
M_AVFI GENERAL INFORMATION M_AVFI_GI
MOVIE VOB INFORMATION SEARCH POINTER #1 M_VOBI_SRP #1
MOVIE VOB INFORMATION SEARCH POINTER #n M_VOBI_SRP #n
MOVIE VOB INFORMATION #1 M_VOBI #1
MOVIE VOB INFORMATION #n M_VOBI #n
MOVIE AV FILE INFORMATION TABLE INFORMATION M_AVFITI
MOVIE VOB STREAM INFORMATION #1 M_VOB_STI #1
MOVIE VOB STREAM INFORMATION #n M_VOB_STI #n
MOVIE AV FILE INFORMATION M_AVFI

FIG. 12

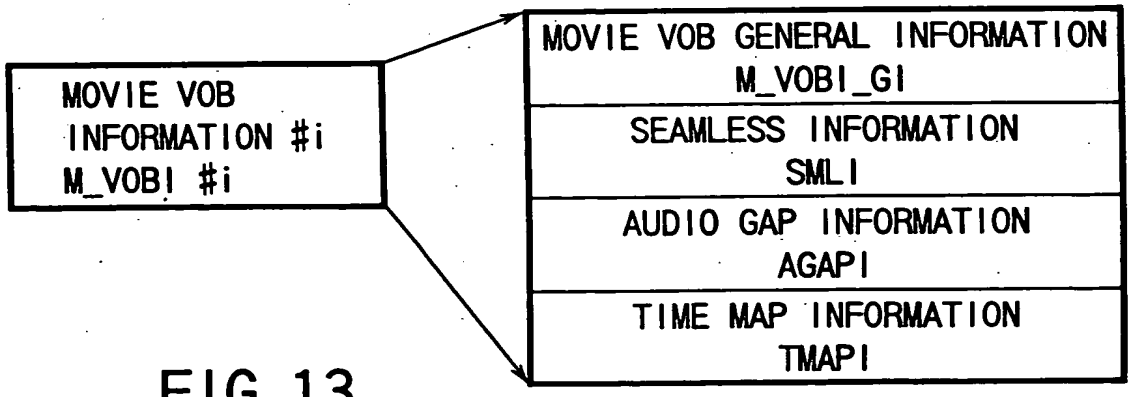

MOVIE VOB INFORMATION #i M_VOBI #i
MOVIE VOB GENERAL INFORMATION M_VOBI_GI
SEAMLESS INFORMATION SMLI
AUDIO GAP INFORMATION AGAPI
TIME MAP INFORMATION TMAPI

FIG. 13

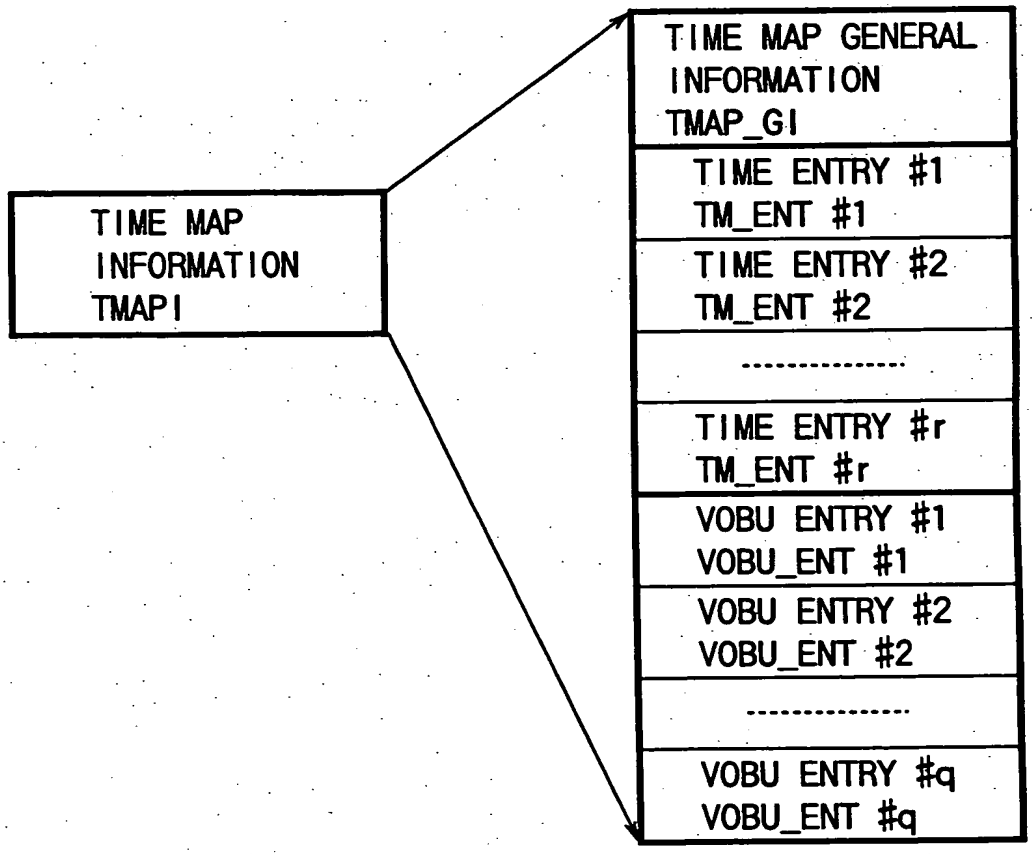

TIME MAP
INFORMATION
TMAPI
TIME MAP GENERAL
INFORMATION
TMAP_GI
TIME ENTRY #1
TM_ENT #1
TIME ENTRY #2
TM_ENT #2
TIME ENTRY #r
TM_ENT #r
VOBU ENTRY #1
VOBU_ENT #1
VOBU ENTRY #2
VOBU_ENT #2
VOBU ENTRY #q
VOBU_ENT #q

FIG. 14

CONTENTS OF TIME MAP GENERAL INFORMATION (TMAP_GI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0–1 | TM_ENT_Ns | NUMBER OF TIME ENTRIES |
| 2–3 | VOBU_ENT_Ns | NUMBER OF VOBU ENTRIES |
| 4–5 | TM_OFS | TIME OFFSET |
| 6–9 | ADR_OFS | ADDRESS OFFSET |

RBP=RELATIVE BYTE POSITION

FIG. 15

CONTENTS OF TIME ENTRY (TM_ENT)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0–1 | VOBU_ENTN | VOBU ENTRY NUMBER |
| 2 | TM_DIFF | TIME DIFFERENCE |
| 3–6 | VOBU_ADR | TARGET VOBU ADDRESS |

RBP=RELATIVE BYTE POSITION

FIG. 16

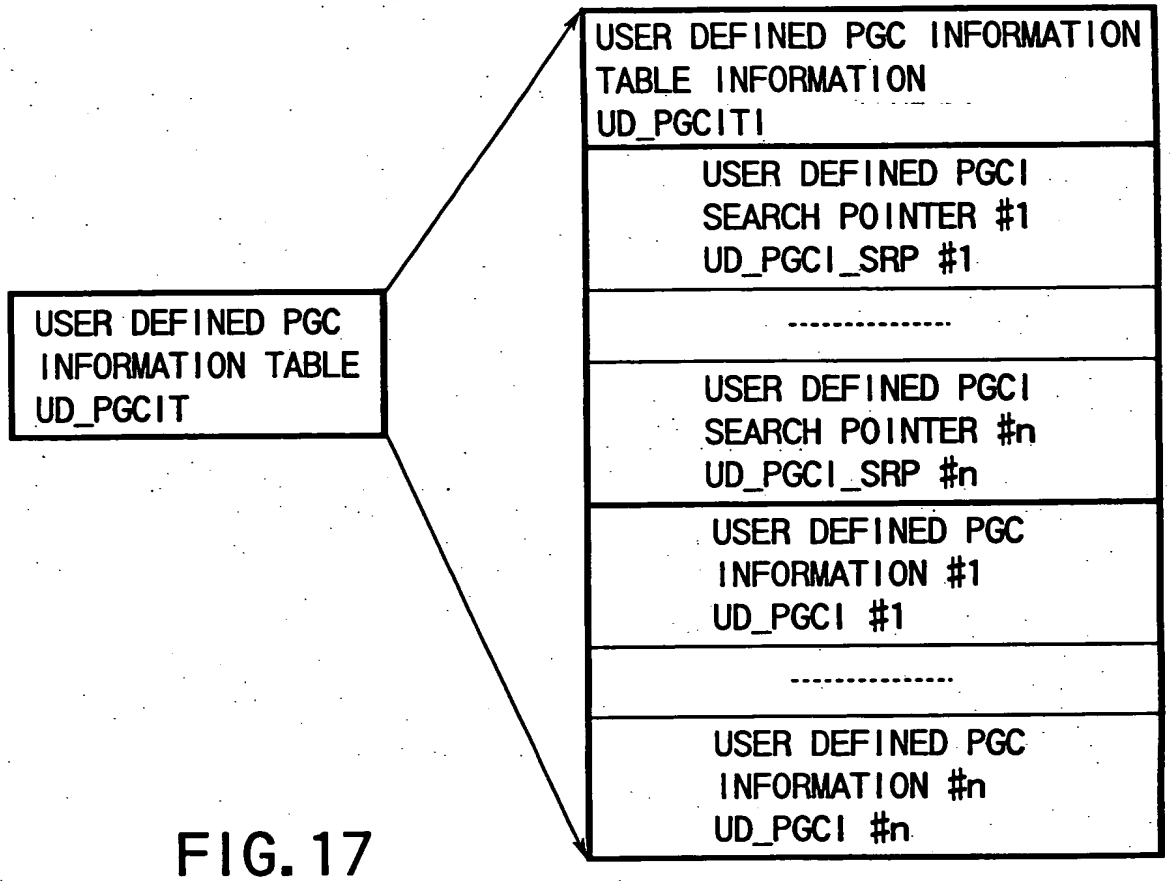

USER DEFINED PGC INFORMATION TABLE
UD_PGCIT
USER DEFINED PGC INFORMATION TABLE INFORMATION
UD_PGCITI
USER DEFINED PGCI SEARCH POINTER #1
UD_PGCI_SRP #1
USER DEFINED PGCI SEARCH POINTER #n
UD_PGCI_SRP #n
USER DEFINED PGC INFORMATION #1
UD_PGCI #1
USER DEFINED PGC INFORMATION #n
UD_PGCI #n

FIG. 17

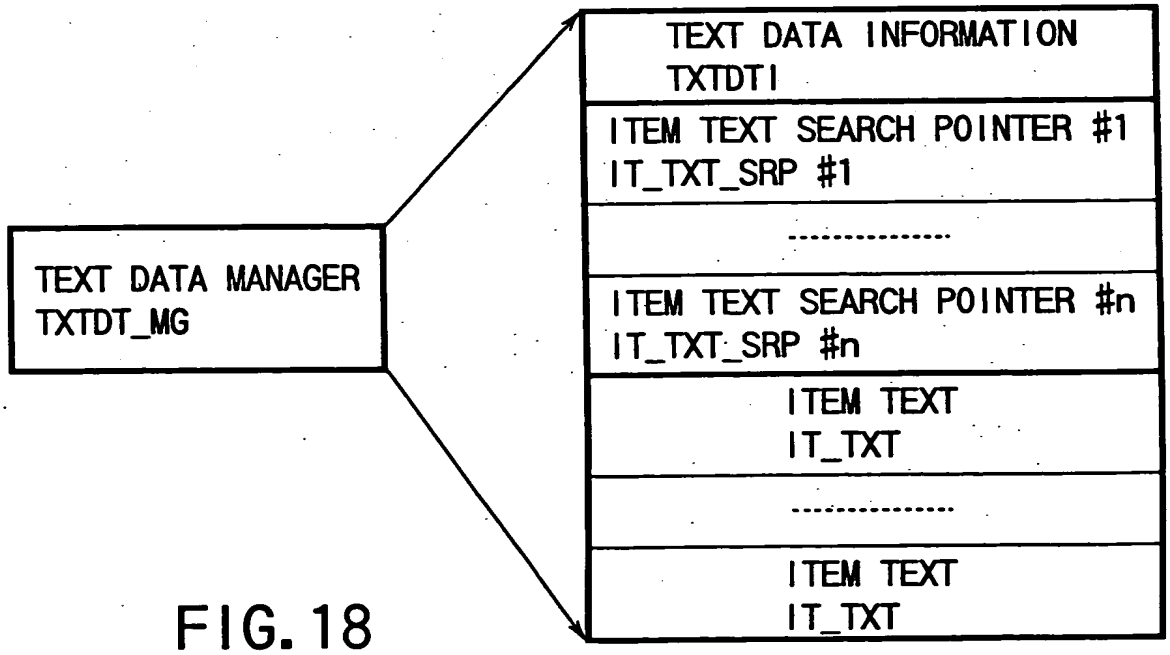

TEXT DATA MANAGER
TXTDT_MG
TEXT DATA INFORMATION
TXTDTI
ITEM TEXT SEARCH POINTER #1
IT_TXT_SRP #1
ITEM TEXT SEARCH POINTER #n
IT_TXT_SRP #n
ITEM TEXT
IT_TXT
ITEM TEXT
IT_TXT

FIG. 18

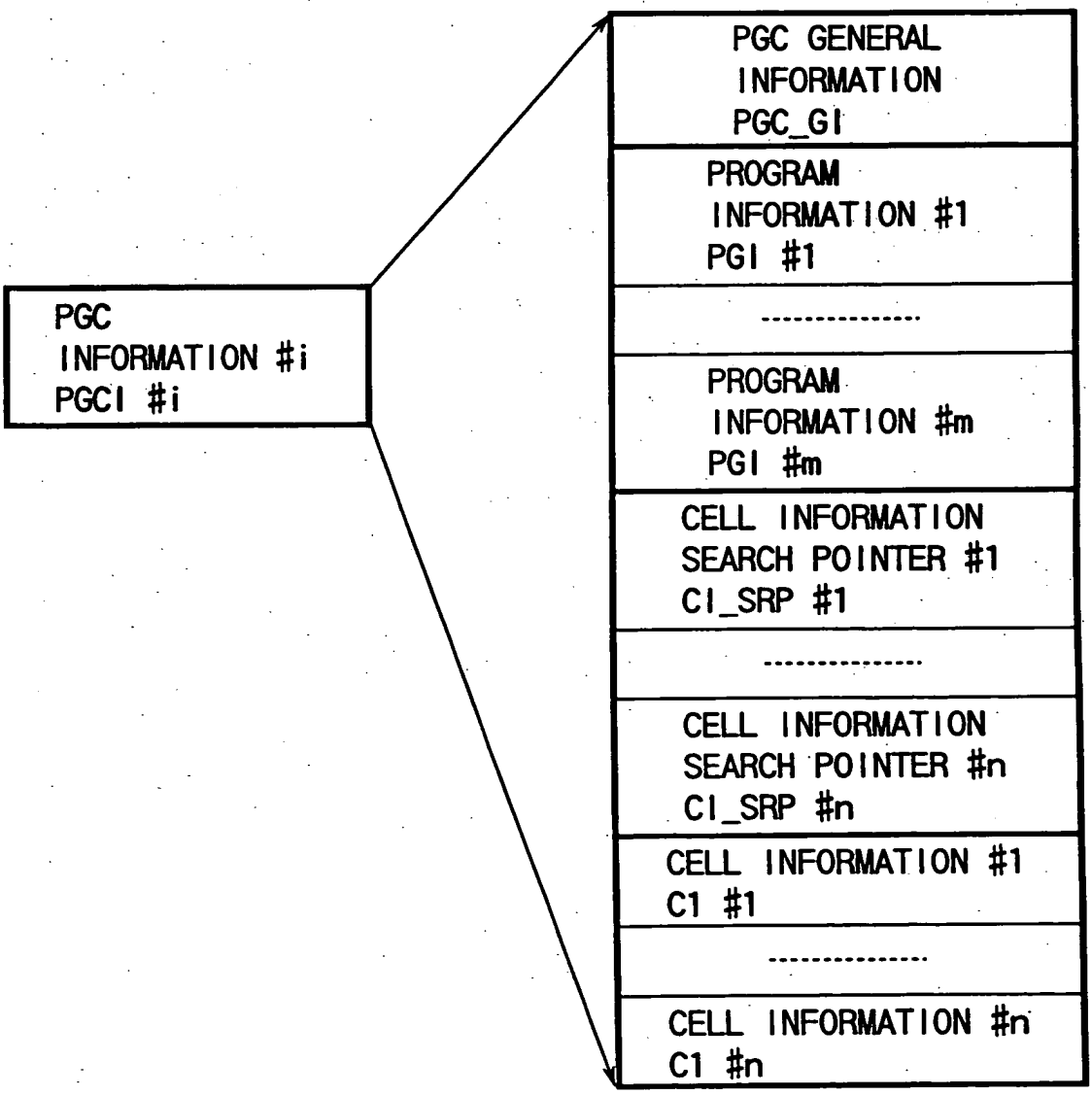

PGC
INFORMATION #i
PGCI #i
PGC GENERAL
INFORMATION
PGC_GI
PROGRAM
INFORMATION #1
PGI #1
----------
PROGRAM
INFORMATION #m
PGI #m
CELL INFORMATION
SEARCH POINTER #1
CI_SRP #1
----------
CELL INFORMATION
SEARCH POINTER #n
CI_SRP #n
CELL INFORMATION #1
C1 #1
----------
CELL INFORMATION #n
C1 #n

FIG. 19

CONTENTS OF PGC GENERAL INFORMATION (PGC_GI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0 | RESERVED | RESERVED |
| 1 | PG_Ns | NUMBER OF PROGRAMS |
| 2-3 | CI_SRP_Ns | NUMBER OF CI_SRPs |

RBP=RELATIVE BYTE POSITION

FIG. 20

CONTENTS OF PROGRAM INFORMATION (PGI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0 | RESERVED | RESERVED |
| 1 | PG_TY | PROGRAM TYPE |
| 2-3 | C_Ns | NUMBER OF CELLS IN THIS PROGRAM |
| 4-131 | PRM_TXTI | PRIMARY TEXT INFORMATION |
| 132-133 | IT_TXT_SRPN | IT_TXT_SRP NUMBER |
| 134-141 | THM_PTRI | THUMBNAIL POINTER INFORMATION |

RBP=RELATIVE BYTE POSITION

FIG. 21

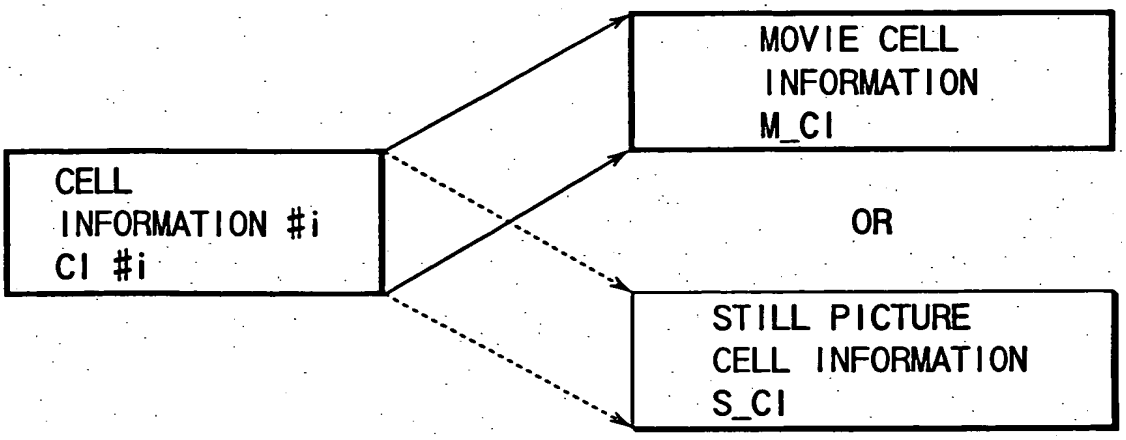

CELL
INFORMATION #i
CI #i
MOVIE CELL
INFORMATION
M_CI
OR
STILL PICTURE
CELL INFORMATION
S_CI

FIG. 22

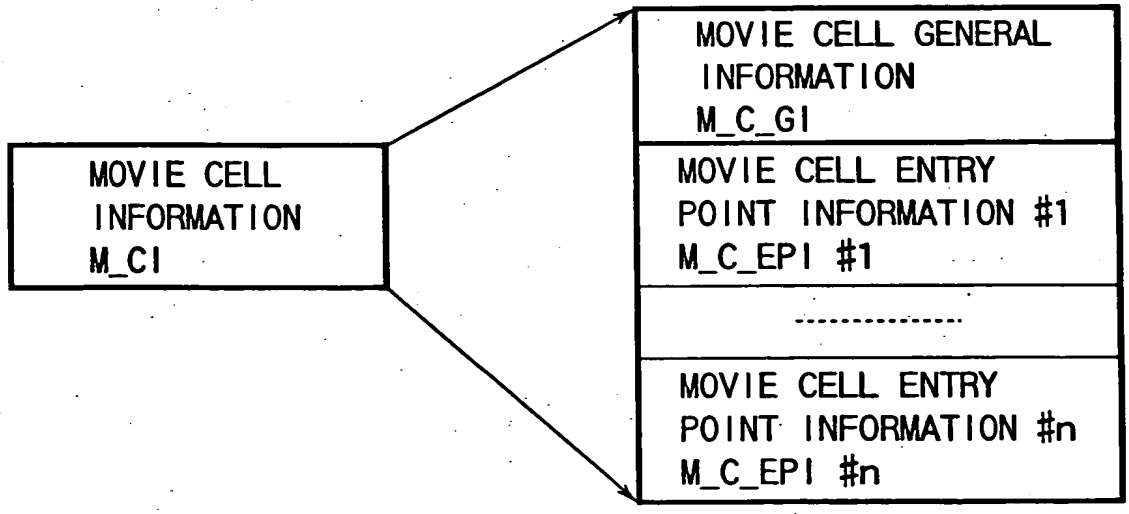

MOVIE CELL
INFORMATION
M_CI
MOVIE CELL GENERAL
INFORMATION
M_C_GI
MOVIE CELL ENTRY
POINT INFORMATION #1
M_C_EPI #1
MOVIE CELL ENTRY
POINT INFORMATION #n
M_C_EPI #n

FIG. 23

CONTENTS OF MOVIE CELL GENERAL INFORMATION (M_C_GI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0 | RESERVED | RESERVED |
| 1 | C_TY | CELL TYPE |
| 2-3 | M_VOBI_SRPN | MOVIE VOBI SEARCH POINTER NUMBER |
| 4-5 | C_EPI_Ns | NUMBER OF CELL ENTRY POINT INFORMATION |
| 6-11 | C_V_S_PTM | PRESENTATION START TIME OF THIS CELL |
| 12-17 | C_V_E_PTM | PRESENTATION END TIME OF THIS CELL |

RBP=RELATIVE BYTE POSITION

FIG. 24

CONTENTS OF MOVIE CELL ENTRY POINT INFORMATION (M_C_EPI)

| RBP | FILE NAME | CONTENTS |
|---|---|---|
| 0 | EP_TY | ENTRY POINT TYPE |
| 1-6 | EP_PTM | PRESENTATION TIME OF ENTRY POINT |
| 7-134 | PRM_TXTI | PRIMARY TEXT INFORMATION |

RBP=RELATIVE BYTE POSITION

| INFORMATION TYPE |
|---|
| DATE INFORMATION |
| TEXT INFORMATION |

FIG. 25

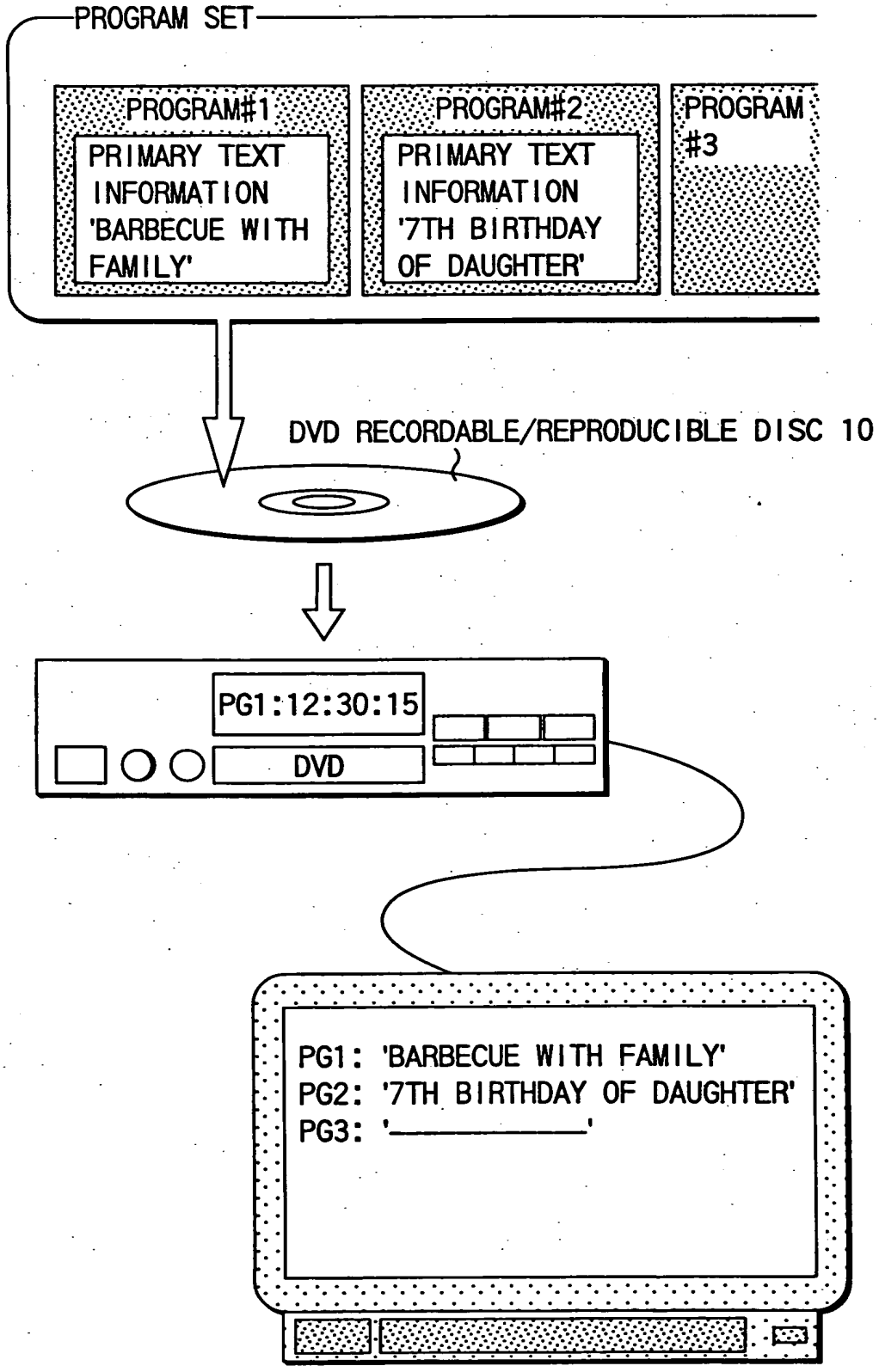

PROGRAM SET
PROGRAM#1
PRIMARY TEXT INFORMATION 'BARBECUE WITH FAMILY'
PROGRAM#2
PRIMARY TEXT INFORMATION '7TH BIRTHDAY OF DAUGHTER'
PROGRAM #3
DVD RECORDABLE/REPRODUCIBLE DISC 10
PG1:12:30:15
DVD
PG1: 'BARBECUE WITH FAMILY'
PG2: '7TH BIRTHDAY OF DAUGHTER'
PG3: '_____'

FIG. 26

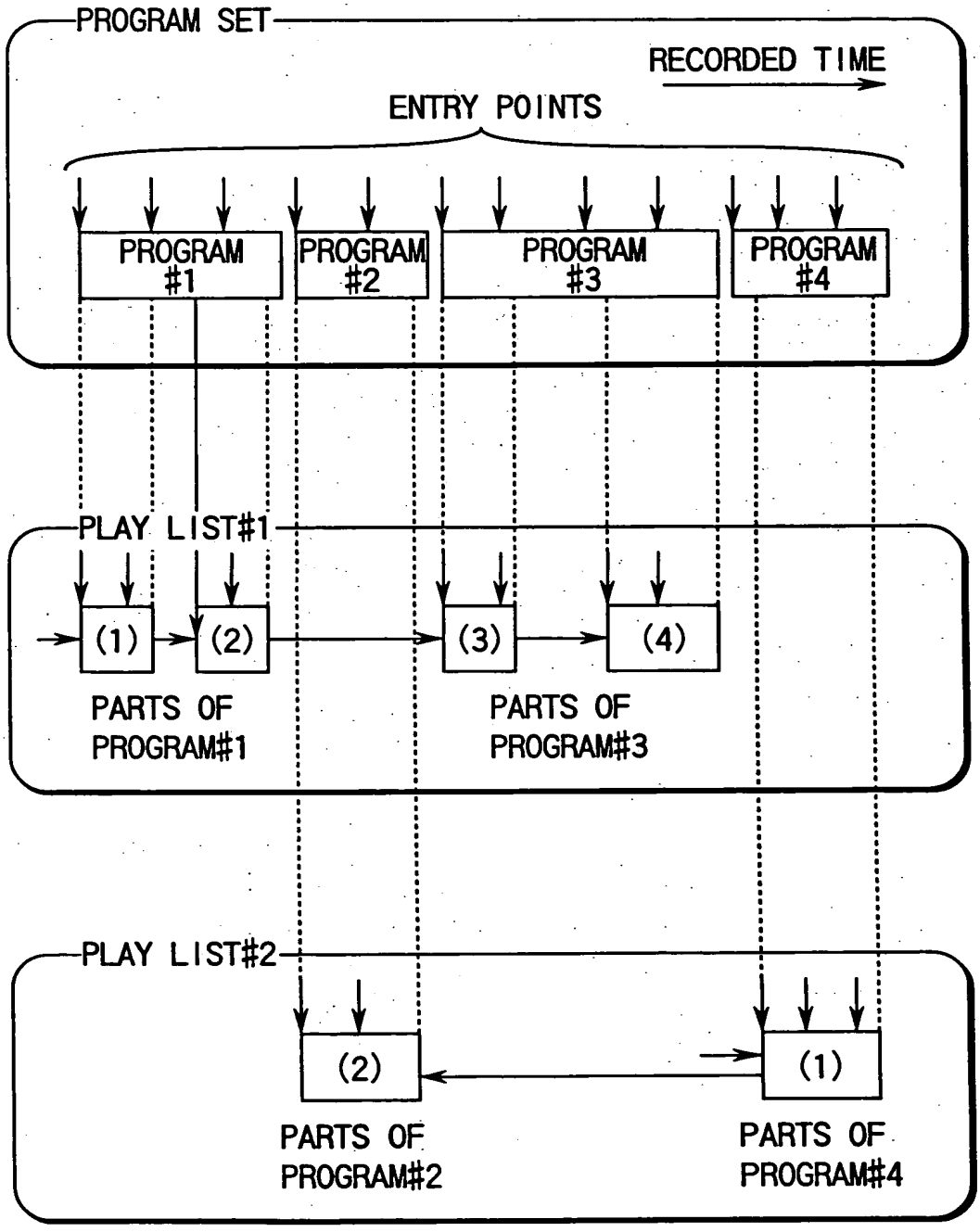

PROGRAM SET
RECORDED TIME
ENTRY POINTS
PROGRAM #1
PROGRAM #2
PROGRAM #3
PROGRAM #4
PLAY LIST#1
(1)
(2)
(3)
(4)
PARTS OF PROGRAM#1
PARTS OF PROGRAM#3
PLAY LIST#2
(2)
(1)
PARTS OF PROGRAM#2
PARTS OF PROGRAM#4

FIG. 27

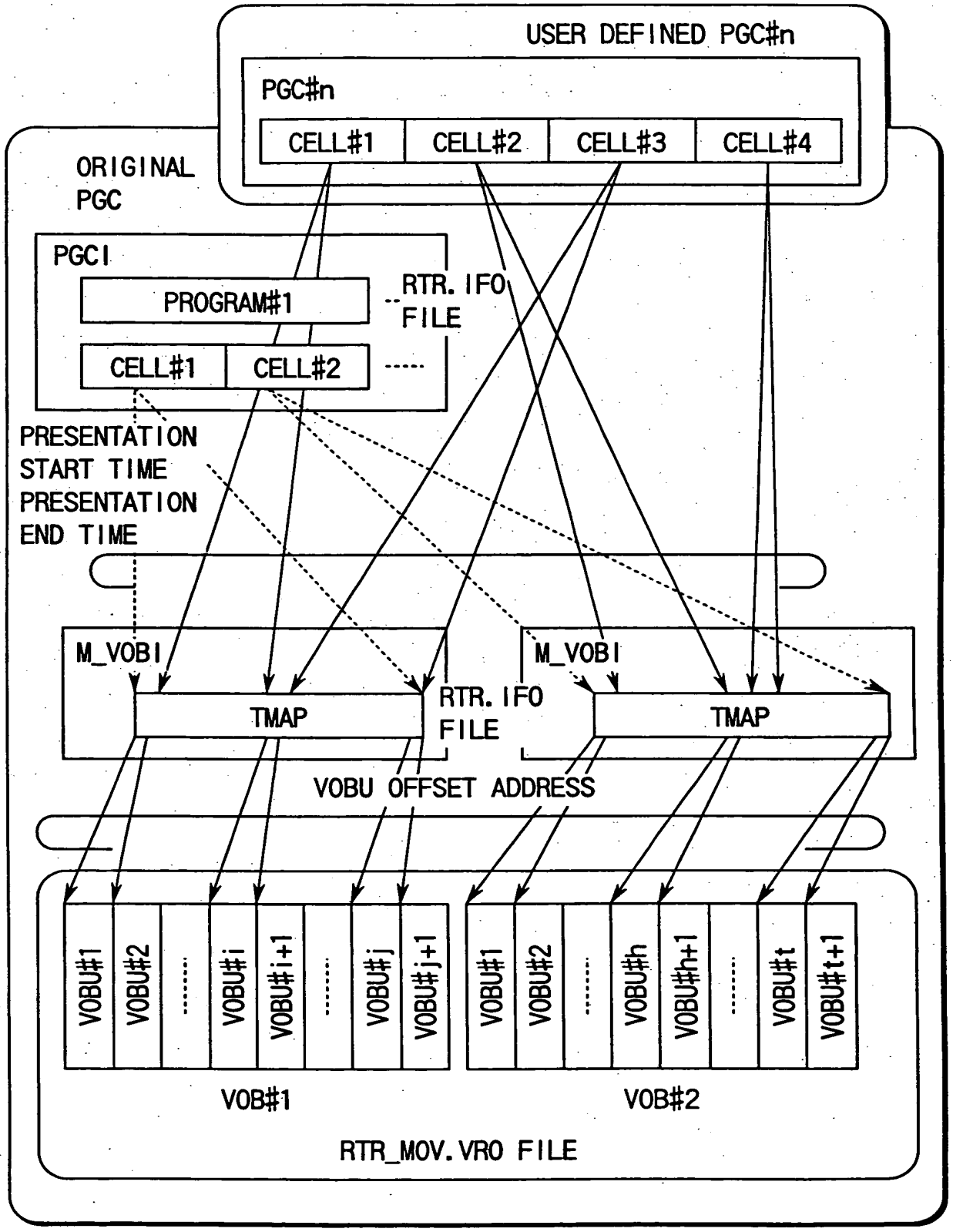

USER DEFINED PGC#n
PGC#n
CELL#1
CELL#2
CELL#3
CELL#4
ORIGINAL PGC
PGCI
PROGRAM#1
RTR. IFO FILE
CELL#1
CELL#2
PRESENTATION START TIME
PRESENTATION END TIME
M_VOBI
M_VOBI
TMAP
RTR. IFO FILE
TMAP
VOBU OFFSET ADDRESS
VOBU#1
VOBU#2
VOBU#i
VOBU#i+1
VOBU#j
VOBU#j+1
VOBU#1
VOBU#2
VOBU#h
VOBU#h+1
VOBU#t
VOBU#t+1
VOB#1
VOB#2
RTR_MOV.VRO FILE

FIG. 28

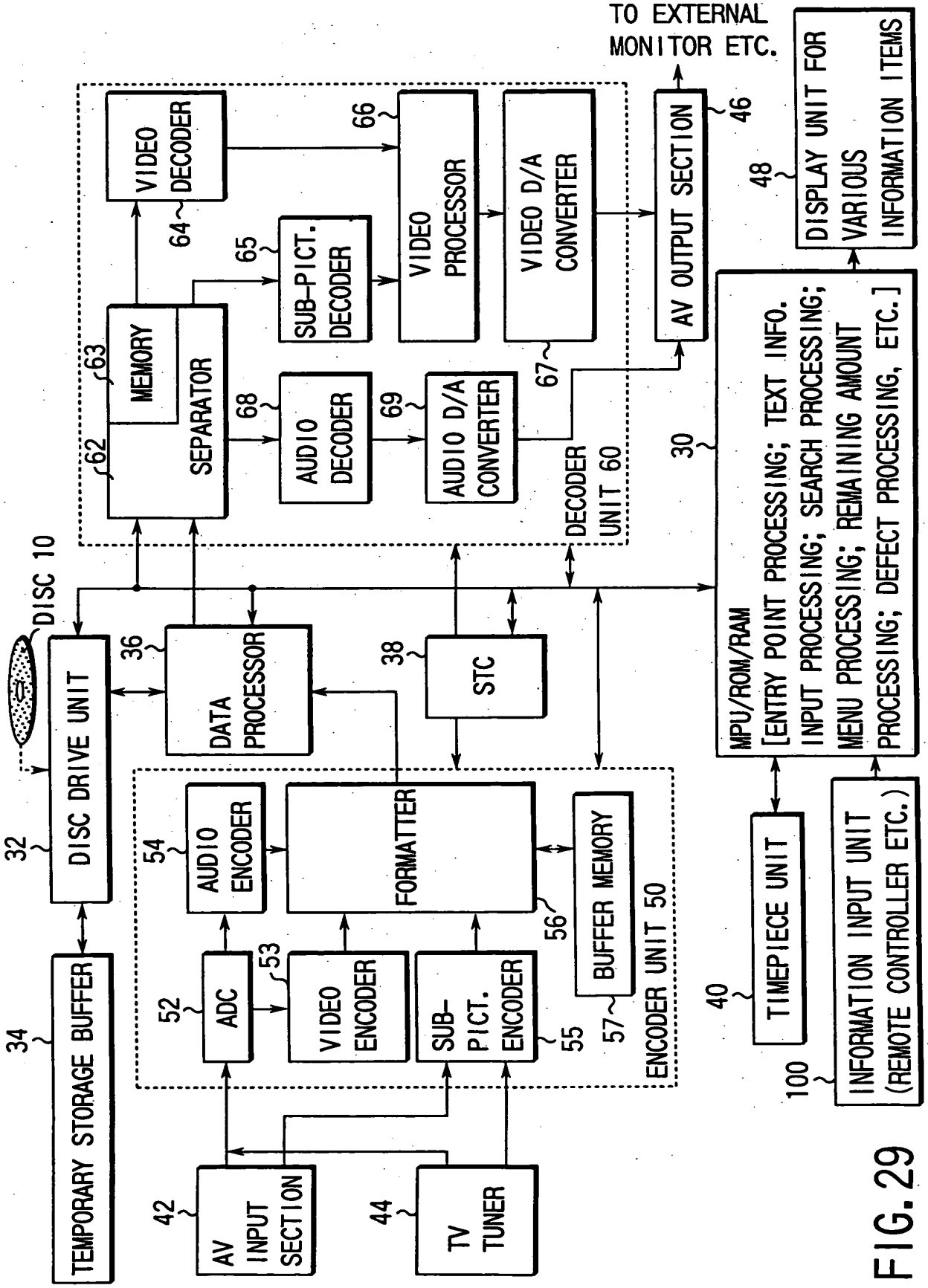

TO EXTERNAL MONITOR ETC.
VIDEO DECODER
64
66
VIDEO PROCESSOR
VIDEO D/A CONVERTER
AV OUTPUT SECTION
46
48
DISPLAY UNIT FOR VARIOUS INFORMATION ITEMS
SUB-PICT. DECODER
65
MEMORY
63
SEPARATOR
62
AUDIO DECODER
68
AUDIO D/A CONVERTER
69
67
DECODER UNIT 60
30
MPU/ROM/RAM
[ENTRY POINT PROCESSING; TEXT INFO. INPUT PROCESSING; SEARCH PROCESSING; MENU PROCESSING; REMAINING AMOUNT PROCESSING; DEFECT PROCESSING, ETC.]
DISC 10
DISC DRIVE UNIT
32
36
DATA PROCESSOR
38
STC
AUDIO ENCODER
54
FORMATTER
BUFFER MEMORY
56
ADC
52
53
VIDEO ENCODER
SUB-PICT. ENCODER
55
57
ENCODER UNIT 50
TEMPORARY STORAGE BUFFER
34
AV INPUT SECTION
42
TV TUNER
44
TIMEPIECE UNIT
40
INFORMATION INPUT UNIT (REMOTE CONTROLLER ETC.)
100

FIG. 29

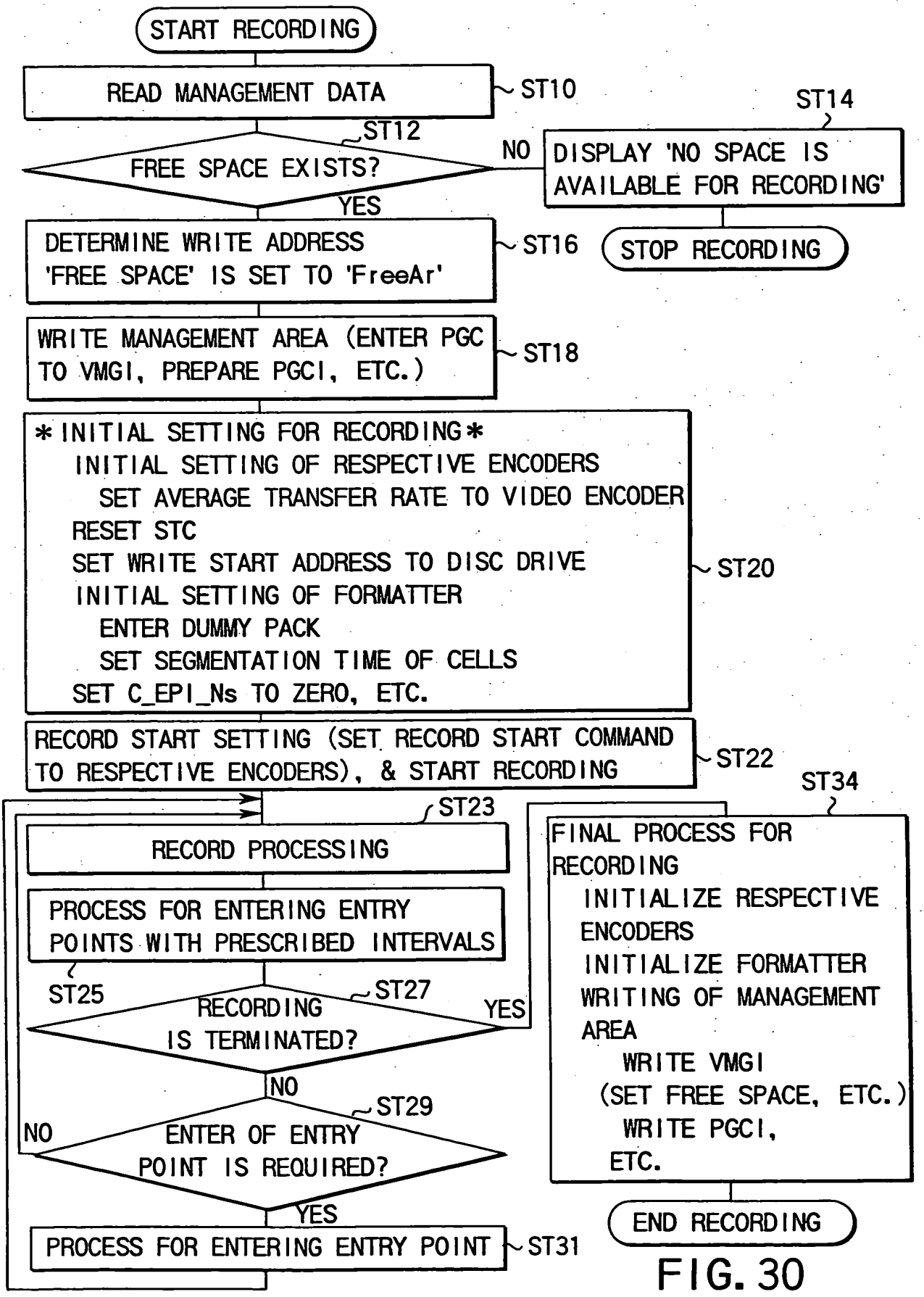

START RECORDING
READ MANAGEMENT DATA
ST10
ST12
FREE SPACE EXISTS?
NO
ST14
DISPLAY 'NO SPACE IS AVAILABLE FOR RECORDING'
STOP RECORDING
YES
DETERMINE WRITE ADDRESS 'FREE SPACE' IS SET TO 'FreeAr'
ST16
WRITE MANAGEMENT AREA (ENTER PGC TO VMGI, PREPARE PGCI, ETC.)
ST18
*INITIAL SETTING FOR RECORDING*
INITIAL SETTING OF RESPECTIVE ENCODERS
SET AVERAGE TRANSFER RATE TO VIDEO ENCODER
RESET STC
SET WRITE START ADDRESS TO DISC DRIVE
INITIAL SETTING OF FORMATTER
ENTER DUMMY PACK
SET SEGMENTATION TIME OF CELLS
SET C_EPI_Ns TO ZERO, ETC.
ST20
RECORD START SETTING (SET RECORD START COMMAND TO RESPECTIVE ENCODERS), & START RECORDING
ST22
ST23
RECORD PROCESSING
PROCESS FOR ENTERING ENTRY POINTS WITH PRESCRIBED INTERVALS
ST25
ST27
RECORDING IS TERMINATED?
YES
NO
ST29
NO
ENTER OF ENTRY POINT IS REQUIRED?
YES
PROCESS FOR ENTERING ENTRY POINT
ST31
ST34
FINAL PROCESS FOR RECORDING
INITIALIZE RESPECTIVE ENCODERS
INITIALIZE FORMATTER
WRITING OF MANAGEMENT AREA
WRITE VMGI (SET FREE SPACE, ETC.)
WRITE PGCI, ETC.
END RECORDING

FIG. 30

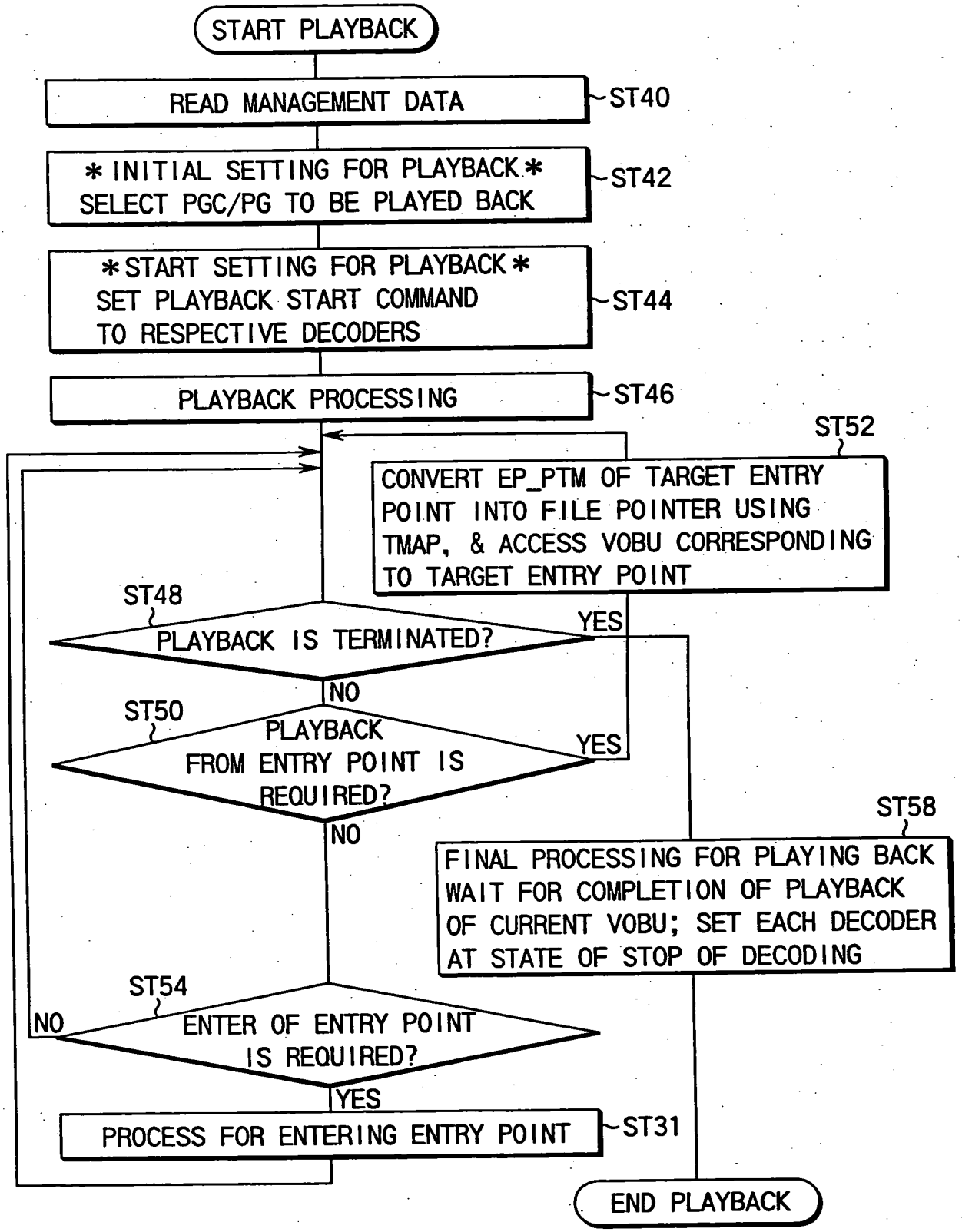

START PLAYBACK
READ MANAGEMENT DATA
ST40
*INITIAL SETTING FOR PLAYBACK*
SELECT PGC/PG TO BE PLAYED BACK
ST42
*START SETTING FOR PLAYBACK*
SET PLAYBACK START COMMAND
TO RESPECTIVE DECODERS
ST44
PLAYBACK PROCESSING
ST46
ST52
CONVERT EP_PTM OF TARGET ENTRY POINT INTO FILE POINTER USING TMAP, & ACCESS VOBU CORRESPONDING TO TARGET ENTRY POINT
ST48
PLAYBACK IS TERMINATED?
YES
NO
ST50
PLAYBACK FROM ENTRY POINT IS REQUIRED?
YES
NO
ST58
FINAL PROCESSING FOR PLAYING BACK
WAIT FOR COMPLETION OF PLAYBACK OF CURRENT VOBU; SET EACH DECODER AT STATE OF STOP OF DECODING
ST54
NO
ENTER OF ENTRY POINT IS REQUIRED?
YES
PROCESS FOR ENTERING ENTRY POINT
ST31
END PLAYBACK

FIG. 31

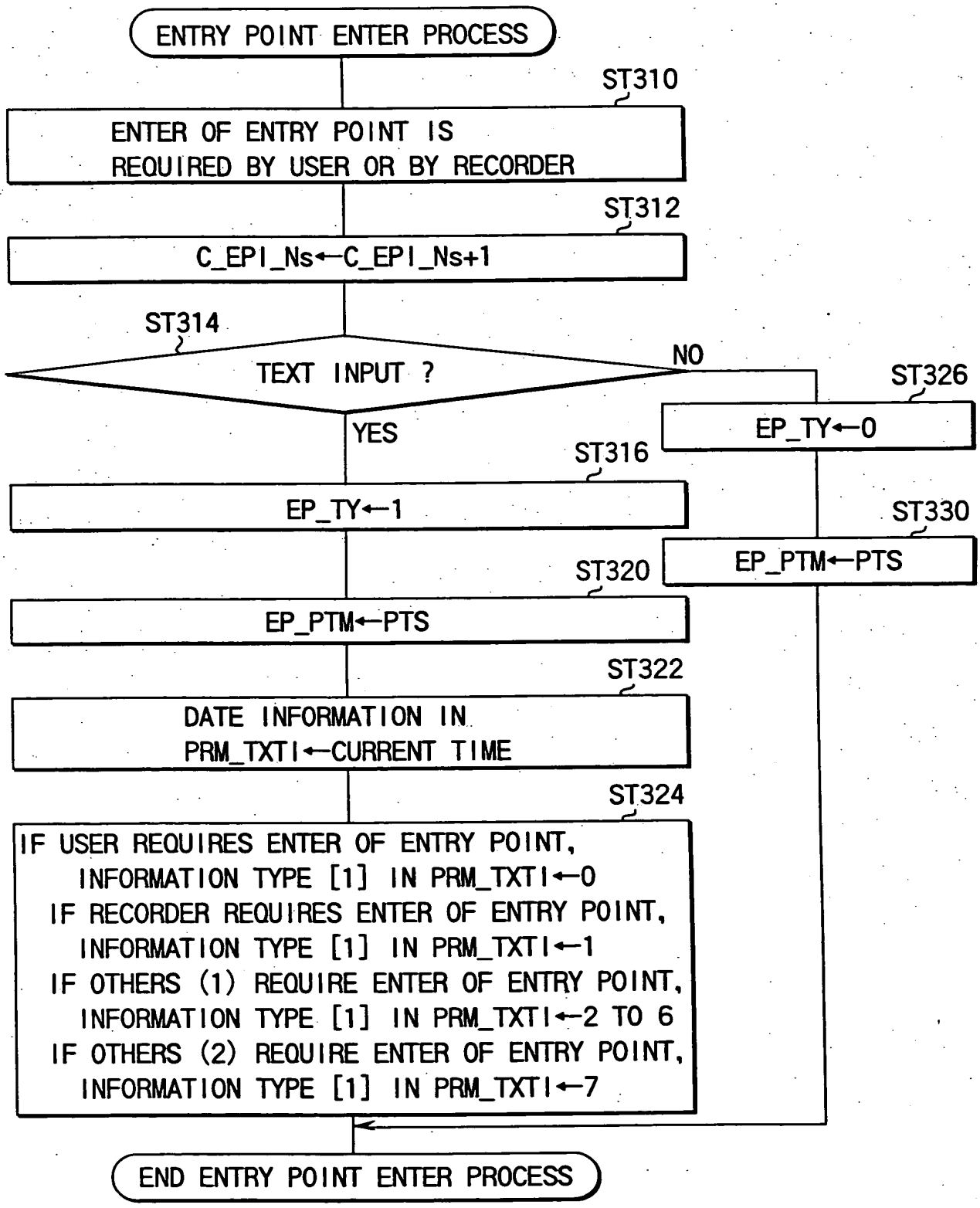

ENTRY POINT ENTER PROCESS
ST310
ENTER OF ENTRY POINT IS REQUIRED BY USER OR BY RECORDER
ST312
C_EPI_Ns←C_EPI_Ns+1
ST314
TEXT INPUT ?
NO
YES
ST326
EP_TY←0
ST316
EP_TY←1
ST330
EP_PTM←PTS
ST320
EP_PTM←PTS
ST322
DATE INFORMATION IN PRM_TXTI←CURRENT TIME
ST324
IF USER REQUIRES ENTER OF ENTRY POINT, INFORMATION TYPE [1] IN PRM_TXTI←0
IF RECORDER REQUIRES ENTER OF ENTRY POINT, INFORMATION TYPE [1] IN PRM_TXTI←1
IF OTHERS (1) REQUIRE ENTER OF ENTRY POINT, INFORMATION TYPE [1] IN PRM_TXTI←2 TO 6
IF OTHERS (2) REQUIRE ENTER OF ENTRY POINT, INFORMATION TYPE [1] IN PRM_TXTI←7
END ENTRY POINT ENTER PROCESS

FIG. 32

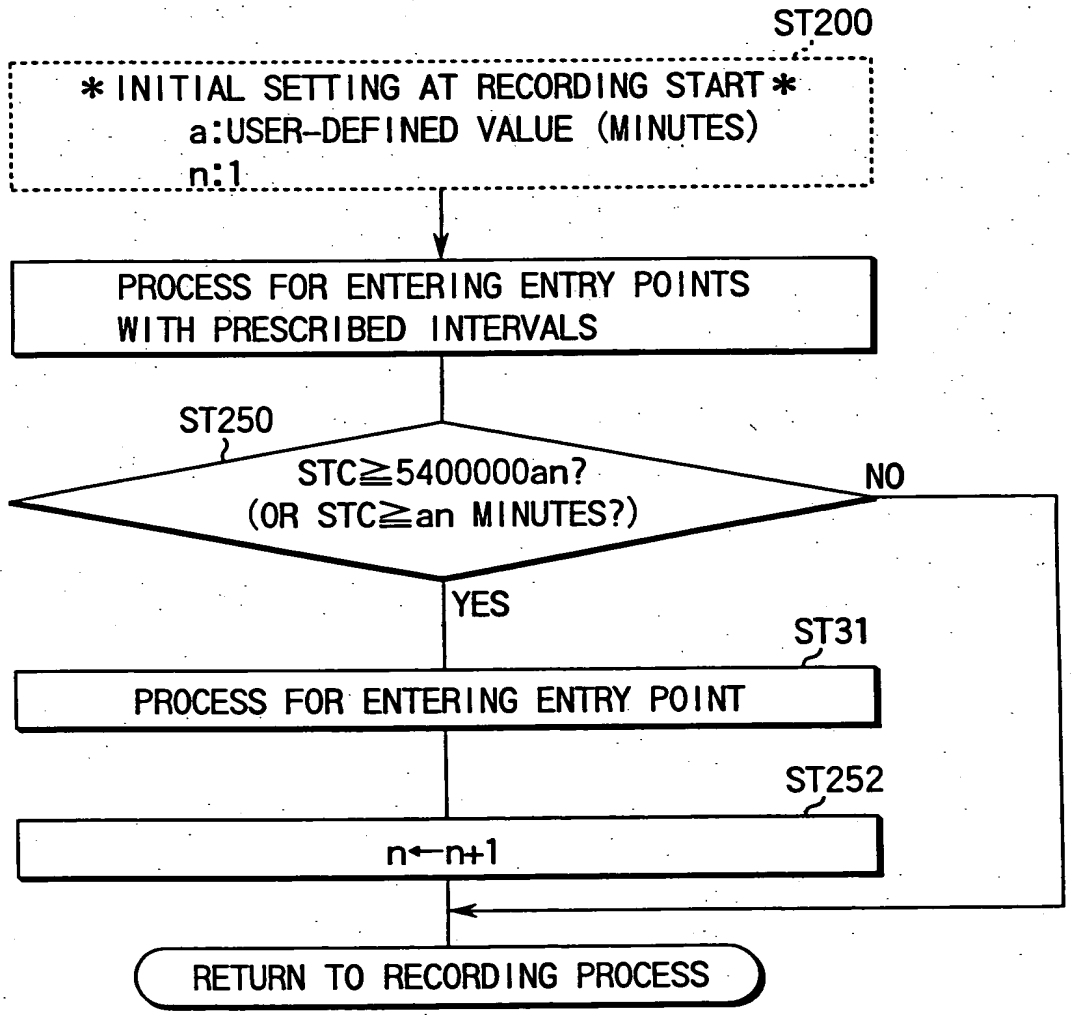

ST200
* INITIAL SETTING AT RECORDING START *
a:USER-DEFINED VALUE (MINUTES)
n:1
PROCESS FOR ENTERING ENTRY POINTS WITH PRESCRIBED INTERVALS
ST250
STC≧5400000an?
(OR STC≧an MINUTES?)
NO
YES
ST31
PROCESS FOR ENTERING ENTRY POINT
ST252
n←n+1
RETURN TO RECORDING PROCESS

FIG. 33

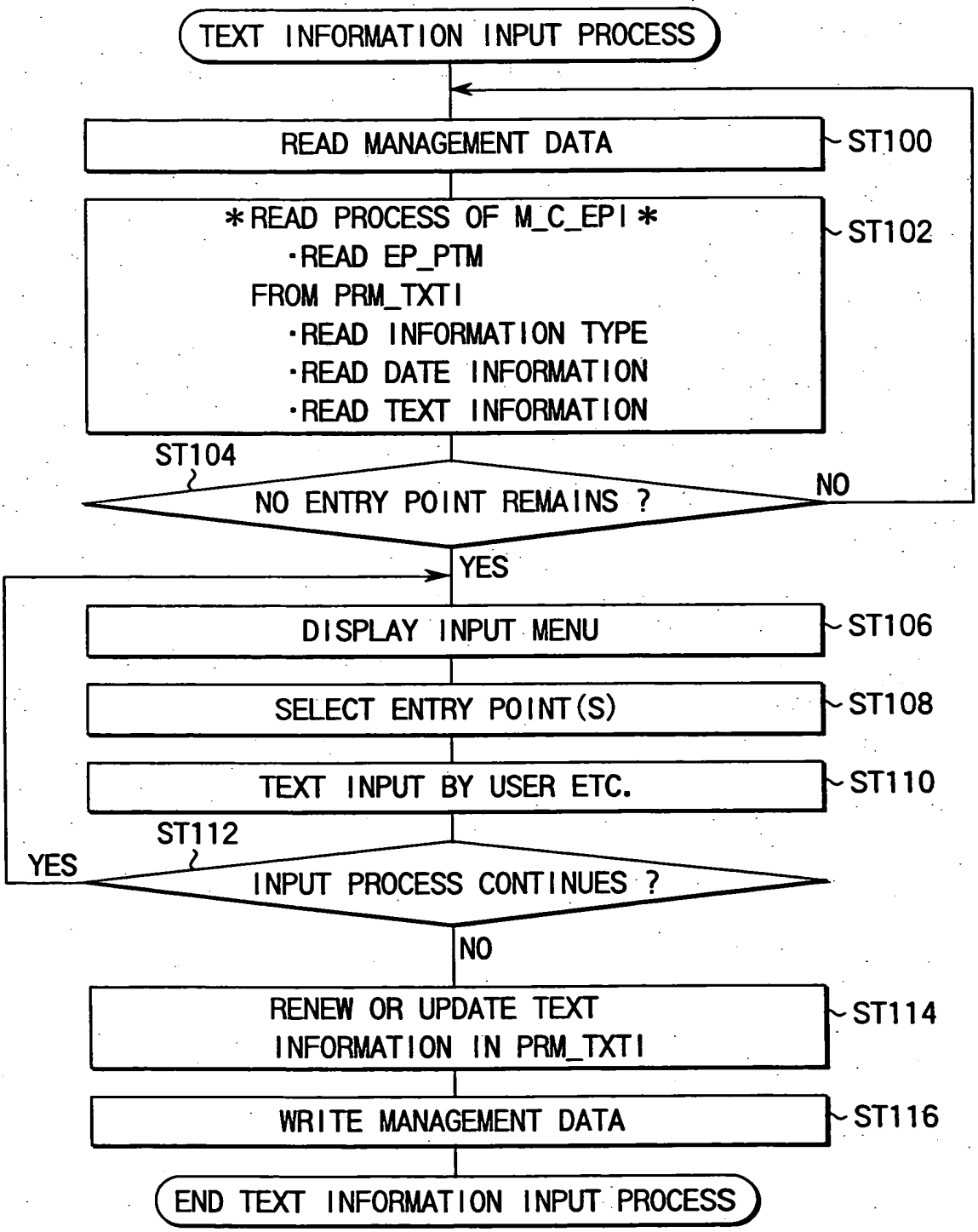

TEXT INFORMATION INPUT PROCESS
READ MANAGEMENT DATA
ST100
*READ PROCESS OF M_C_EPI*
·READ EP_PTM
FROM PRM_TXTI
·READ INFORMATION TYPE
·READ DATE INFORMATION
·READ TEXT INFORMATION
ST102
ST104
NO ENTRY POINT REMAINS ?
NO
YES
DISPLAY INPUT MENU
ST106
SELECT ENTRY POINT(S)
ST108
TEXT INPUT BY USER ETC.
ST110
ST112
YES
INPUT PROCESS CONTINUES ?
NO
RENEW OR UPDATE TEXT
INFORMATION IN PRM_TXTI
ST114
WRITE MANAGEMENT DATA
ST116
END TEXT INFORMATION INPUT PROCESS

FIG. 34

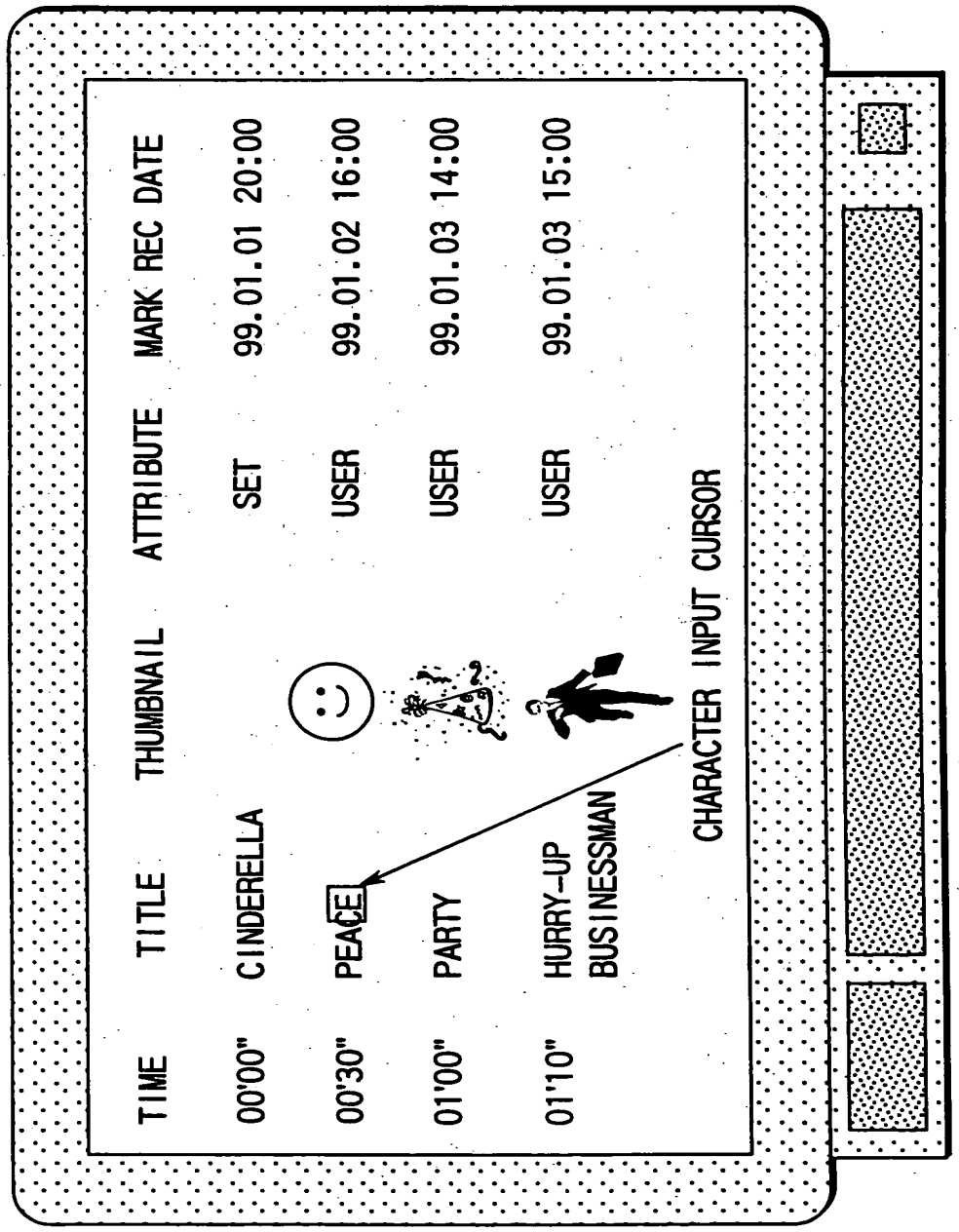

TIME
TITLE
THUMBNAIL
ATTRIBUTE
MARK REC DATE
00'00"
CINDERELLA
SET
99.01.01 20:00
00'30"
PEACE
USER
99.01.02 16:00
01'00"
PARTY
USER
99.01.03 14:00
01'10"
HURRY-UP BUSINESSMAN
USER
99.01.03 15:00
CHARACTER INPUT CURSOR

FIG. 35

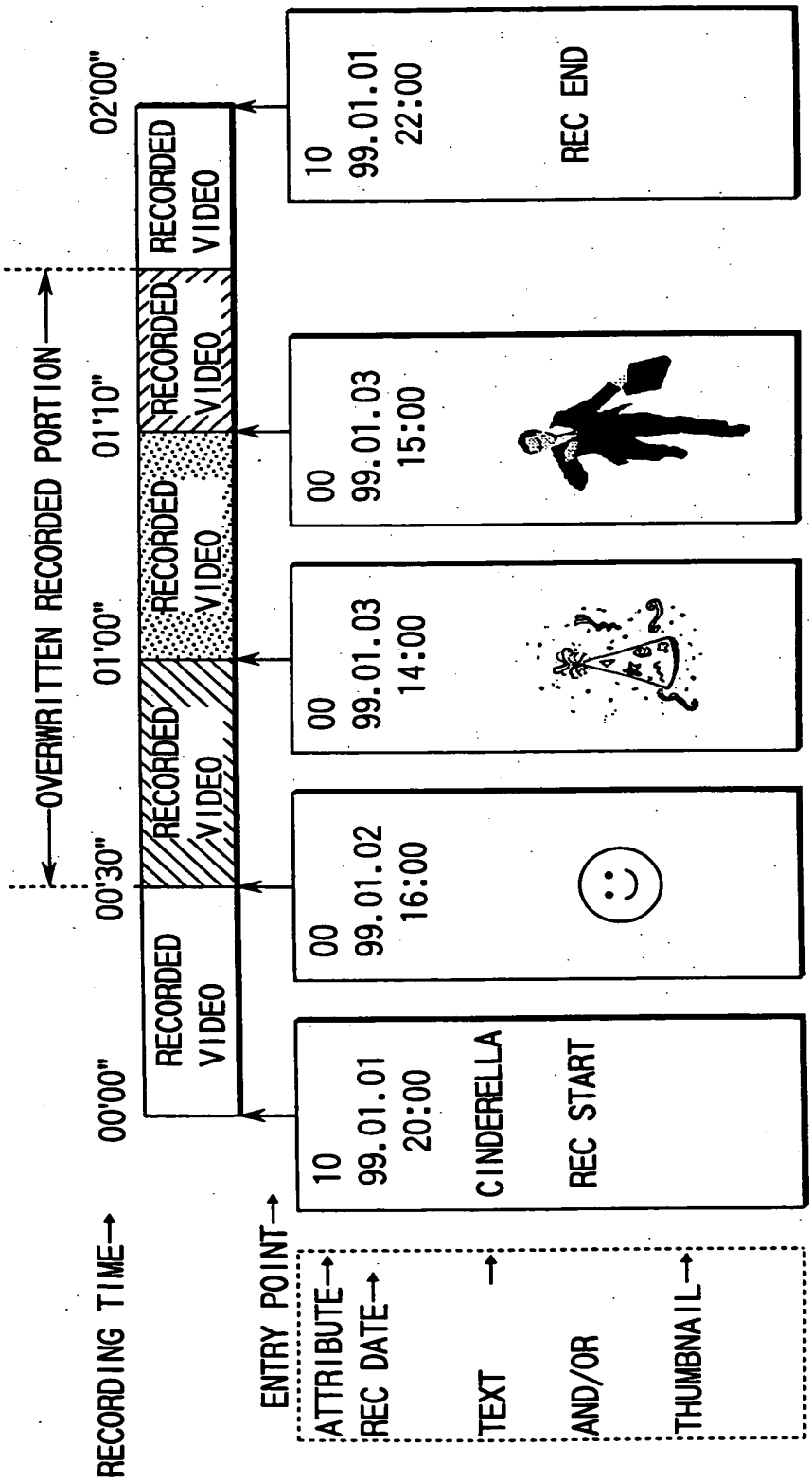

RECORDING TIME
00'00"
00'30"
01'00"
01'10"
02'00"
OVERWRITTEN RECORDED PORTION
RECORDED VIDEO
ENTRY POINT
ATTRIBUTE
REC DATE
TEXT
AND/OR
THUMBNAIL
10
99.01.01
20:00
CINDERELLA
REC START
00
99.01.02
16:00
00
99.01.03
14:00
00
99.01.03
15:00
10
99.01.01
22:00
REC END

FIG. 36

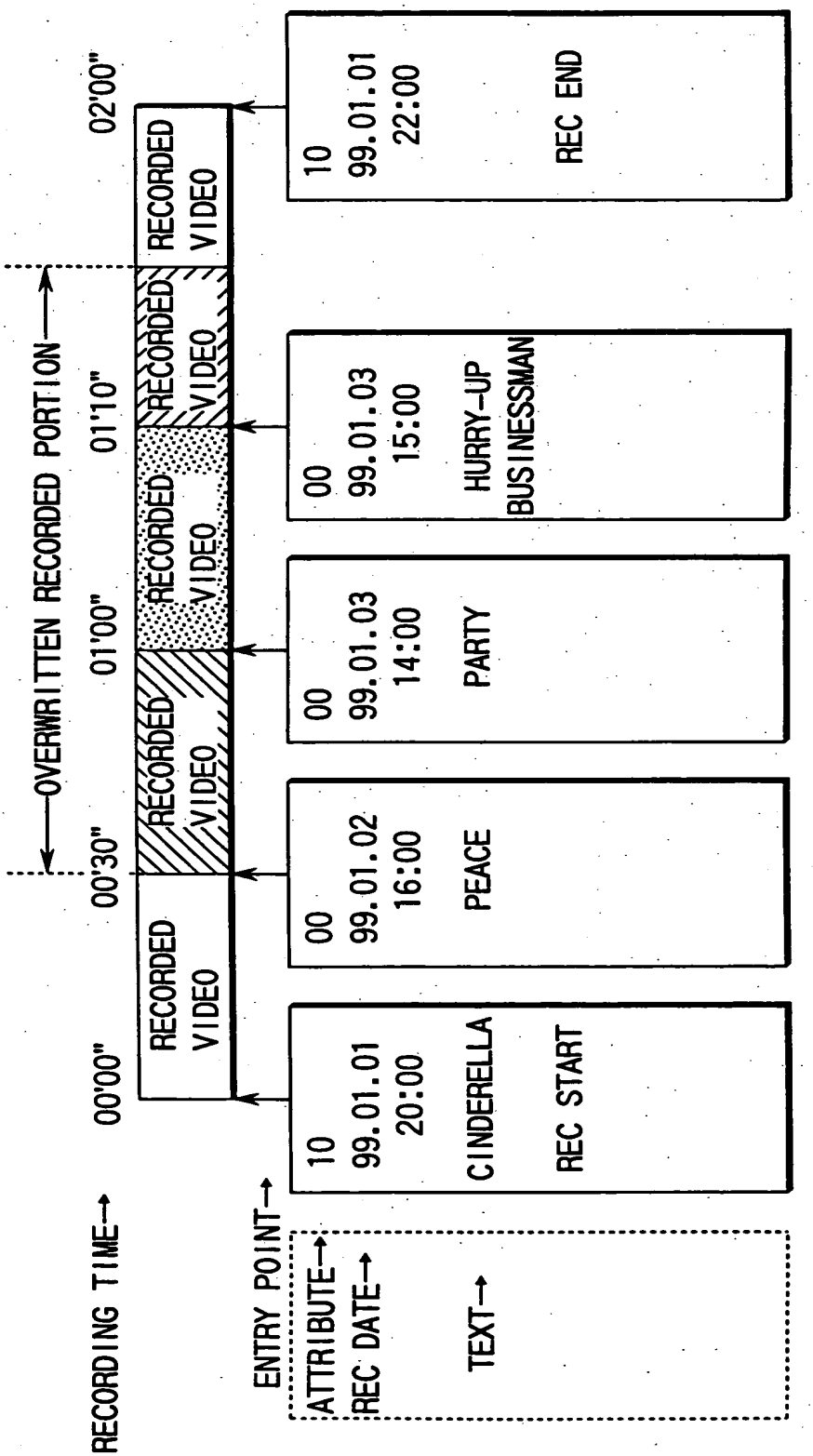

RECORDING TIME→
00'00"
00'30"
01'00"
01'10"
02'00"
OVERWRITTEN RECORDED PORTION
RECORDED VIDEO
ENTRY POINT→
ATTRIBUTE→
REC DATE→
TEXT→
10
99.01.01
20:00
CINDERELLA
REC START
00
99.01.02
16:00
PEACE
00
99.01.03
14:00
PARTY
00
99.01.03
15:00
HURRY-UP
BUSINESSMAN
10
99.01.01
22:00
REC END

FIG. 37

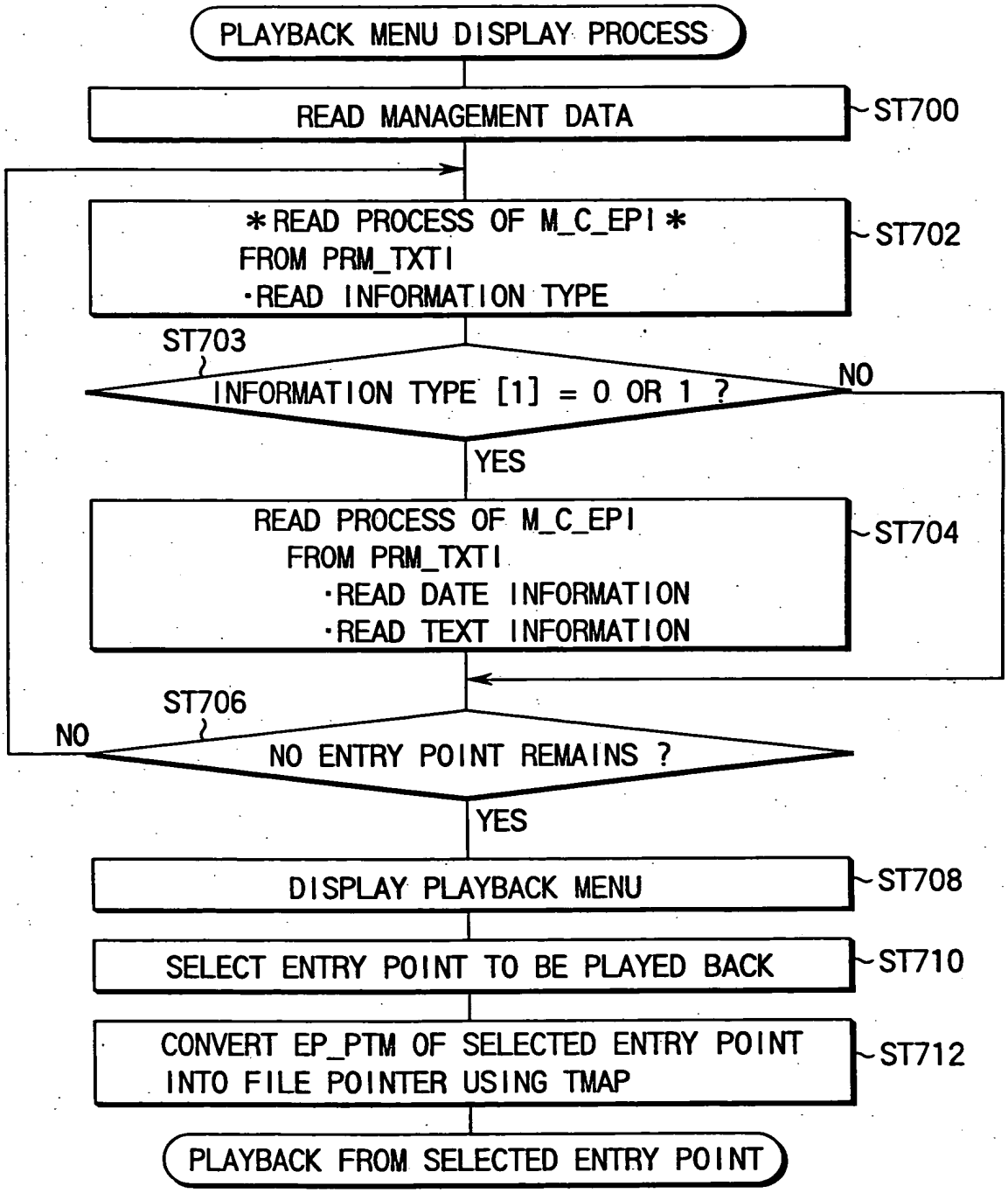

PLAYBACK MENU DISPLAY PROCESS
READ MANAGEMENT DATA
ST700
*READ PROCESS OF M_C_EPI*
FROM PRM_TXTI
·READ INFORMATION TYPE
ST702
ST703
INFORMATION TYPE [1] = 0 OR 1 ?
NO
YES
READ PROCESS OF M_C_EPI
FROM PRM_TXTI
·READ DATE INFORMATION
·READ TEXT INFORMATION
ST704
ST706
NO
NO ENTRY POINT REMAINS ?
YES
DISPLAY PLAYBACK MENU
ST708
SELECT ENTRY POINT TO BE PLAYED BACK
ST710
CONVERT EP_PTM OF SELECTED ENTRY POINT
INTO FILE POINTER USING TMAP
ST712
PLAYBACK FROM SELECTED ENTRY POINT

FIG. 38

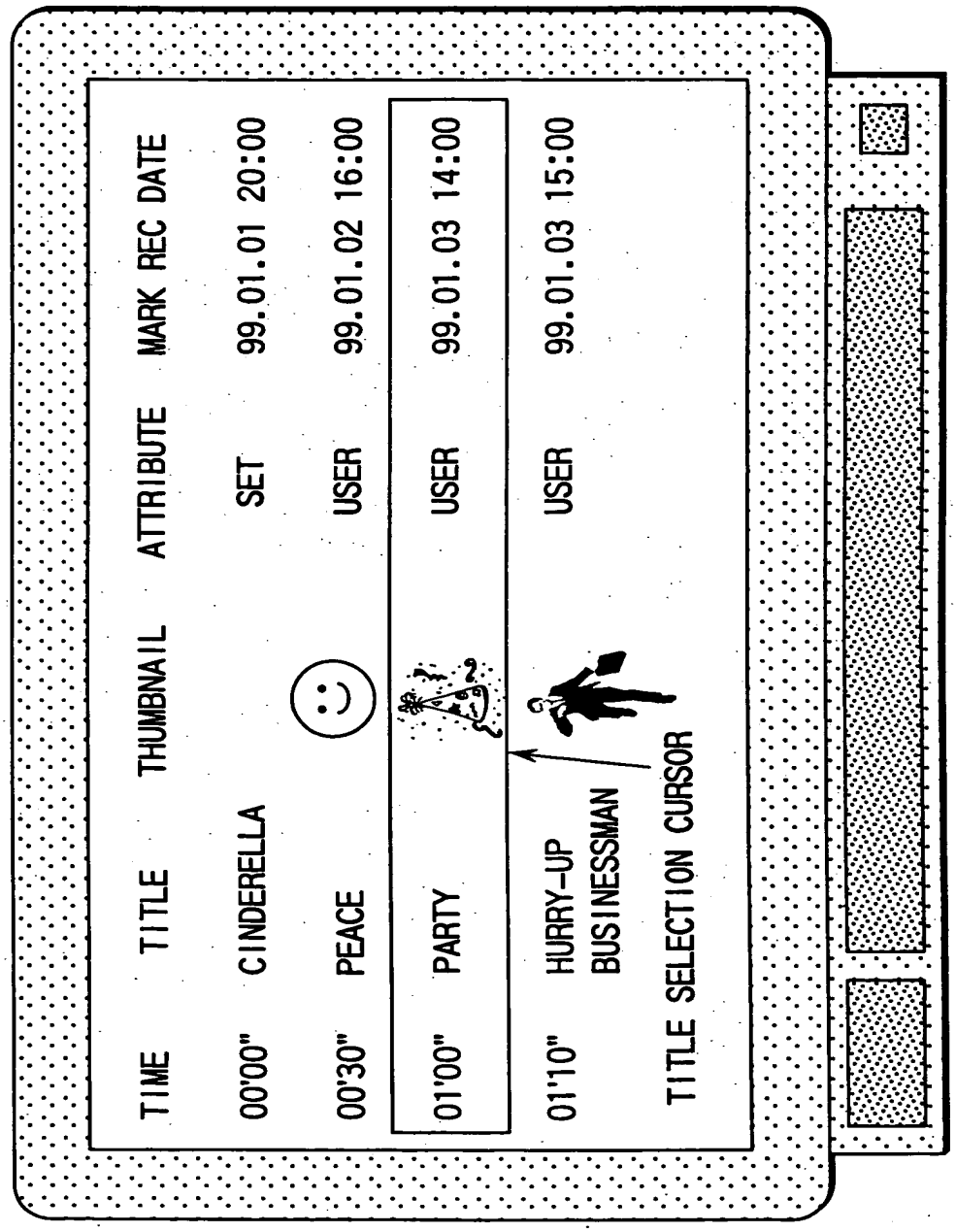

TIME
TITLE
THUMBNAIL
ATTRIBUTE
MARK REC DATE
00'00"
CINDERELLA
SET
99.01.01 20:00
00'30"
PEACE
USER
99.01.02 16:00
01'00"
PARTY
USER
99.01.03 14:00
01'10"
HURRY-UP BUSINESSMAN
USER
99.01.03 15:00
TITLE SELECTION CURSOR

FIG. 39

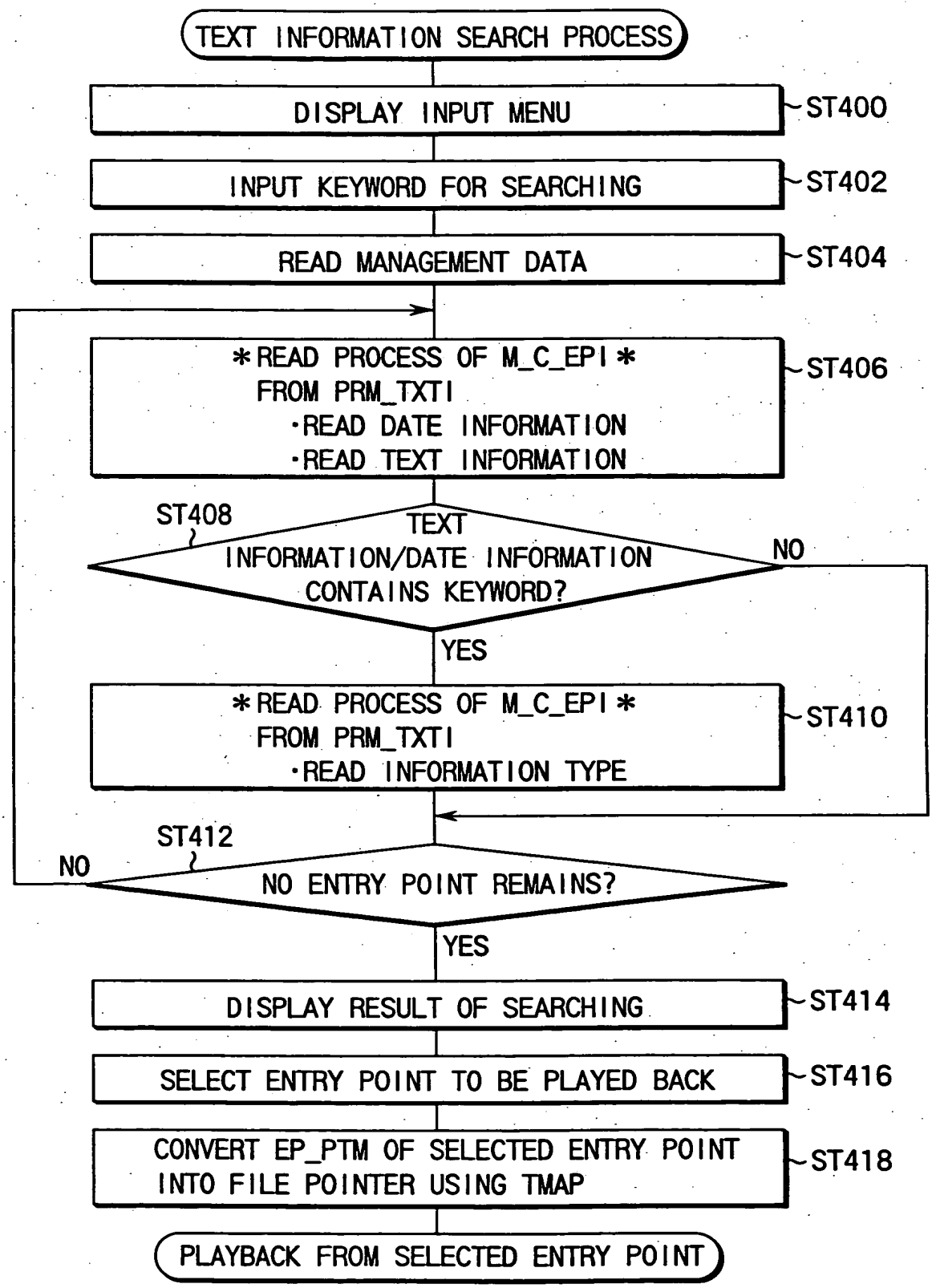

TEXT INFORMATION SEARCH PROCESS
DISPLAY INPUT MENU
ST400
INPUT KEYWORD FOR SEARCHING
ST402
READ MANAGEMENT DATA
ST404
*READ PROCESS OF M_C_EPI*
FROM PRM_TXTI
·READ DATE INFORMATION
·READ TEXT INFORMATION
ST406
ST408
TEXT INFORMATION/DATE INFORMATION CONTAINS KEYWORD?
NO
YES
*READ PROCESS OF M_C_EPI*
FROM PRM_TXTI
·READ INFORMATION TYPE
ST410
ST412
NO
NO ENTRY POINT REMAINS?
YES
DISPLAY RESULT OF SEARCHING
ST414
SELECT ENTRY POINT TO BE PLAYED BACK
ST416
CONVERT EP_PTM OF SELECTED ENTRY POINT INTO FILE POINTER USING TMAP
ST418
PLAYBACK FROM SELECTED ENTRY POINT

FIG. 40

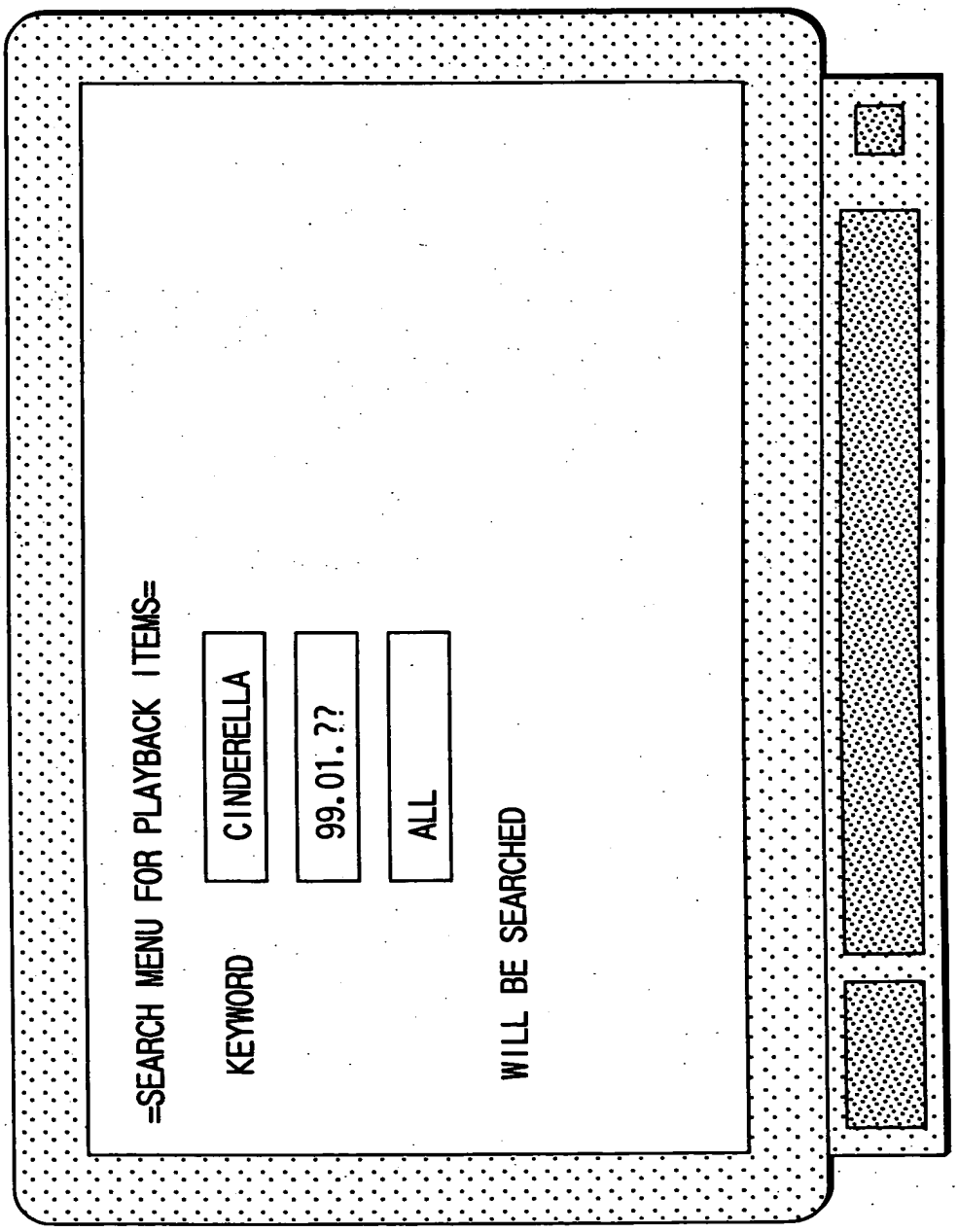

=SEARCH MENU FOR PLAYBACK ITEMS=
KEYWORD
CINDERELLA
99.01.??
ALL
WILL BE SEARCHED

FIG. 41

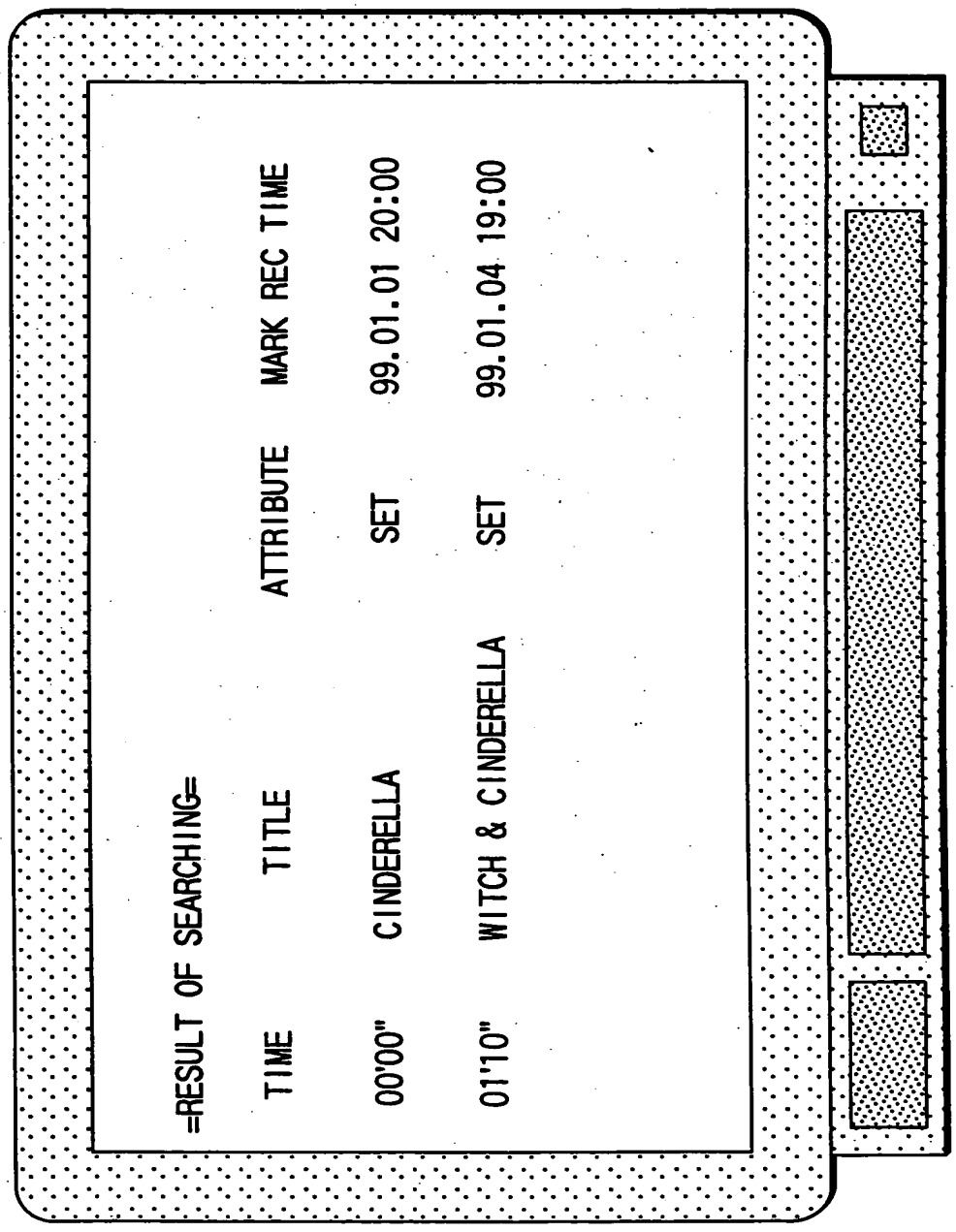

=RESULT OF SEARCHING=
TIME
TITLE
ATTRIBUTE
MARK REC TIME
00'00"
CINDERELLA
SET
99.01.01 20:00
01'10"
WITCH & CINDERELLA
SET
99.01.04 19:00

FIG. 42

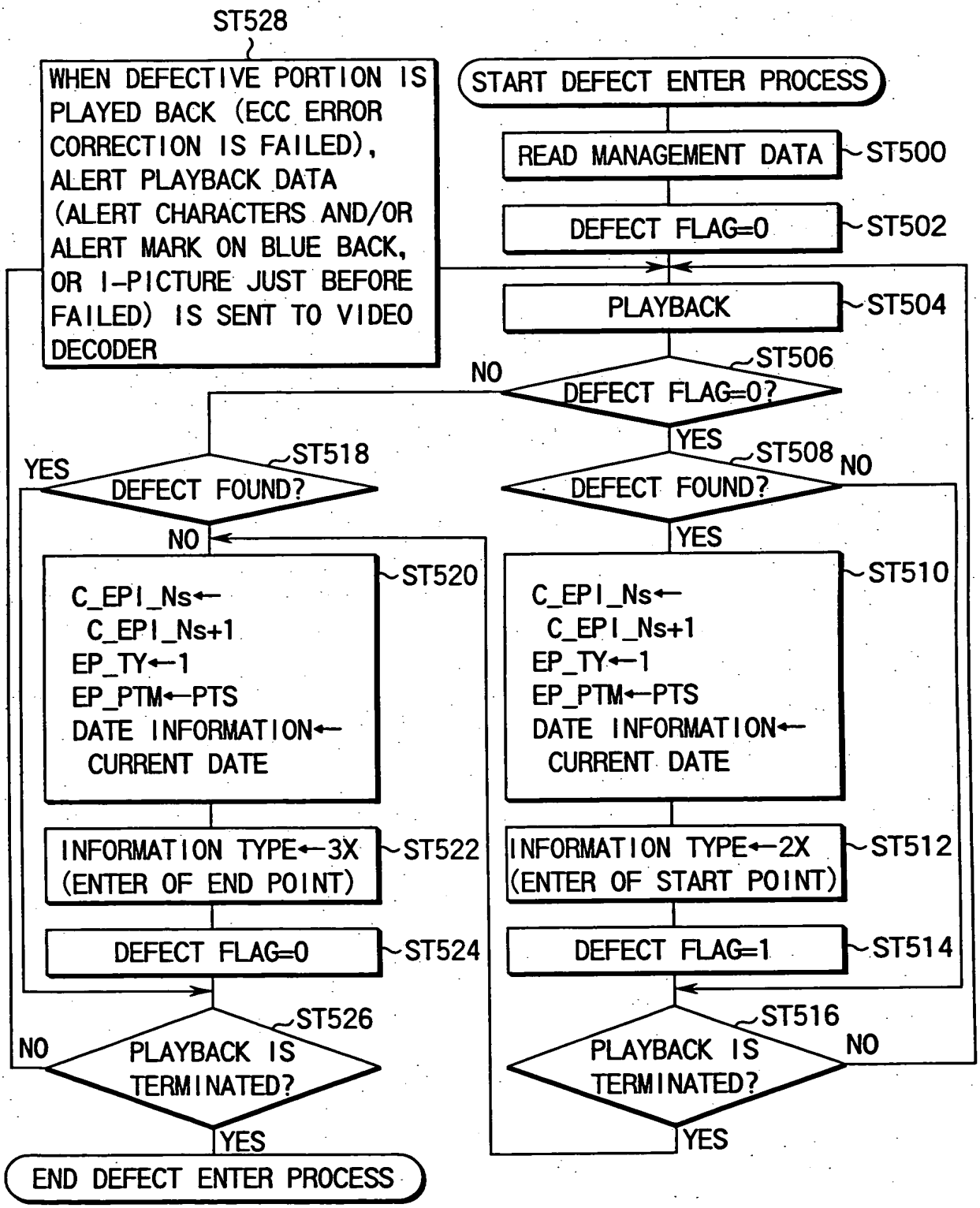

START DEFECT ENTER PROCESS
READ MANAGEMENT DATA
ST500
DEFECT FLAG=0
ST502
PLAYBACK
ST504
DEFECT FLAG=0?
ST506
NO
YES
DEFECT FOUND?
ST508
NO
YES
C_EPI_Ns←
C_EPI_Ns+1
EP_TY←1
EP_PTM←PTS
DATE INFORMATION←
CURRENT DATE
ST510
INFORMATION TYPE←2X
(ENTER OF START POINT)
ST512
DEFECT FLAG=1
ST514
PLAYBACK IS
TERMINATED?
ST516
NO
YES
WHEN DEFECTIVE PORTION IS
PLAYED BACK (ECC ERROR
CORRECTION IS FAILED),
ALERT PLAYBACK DATA
(ALERT CHARACTERS AND/OR
ALERT MARK ON BLUE BACK,
OR I-PICTURE JUST BEFORE
FAILED) IS SENT TO VIDEO
DECODER
ST528
YES
DEFECT FOUND?
ST518
NO
C_EPI_Ns←
C_EPI_Ns+1
EP_TY←1
EP_PTM←PTS
DATE INFORMATION←
CURRENT DATE
ST520
INFORMATION TYPE←3X
(ENTER OF END POINT)
ST522
DEFECT FLAG=0
ST524
PLAYBACK IS
TERMINATED?
ST526
NO
YES
END DEFECT ENTER PROCESS

FIG. 43

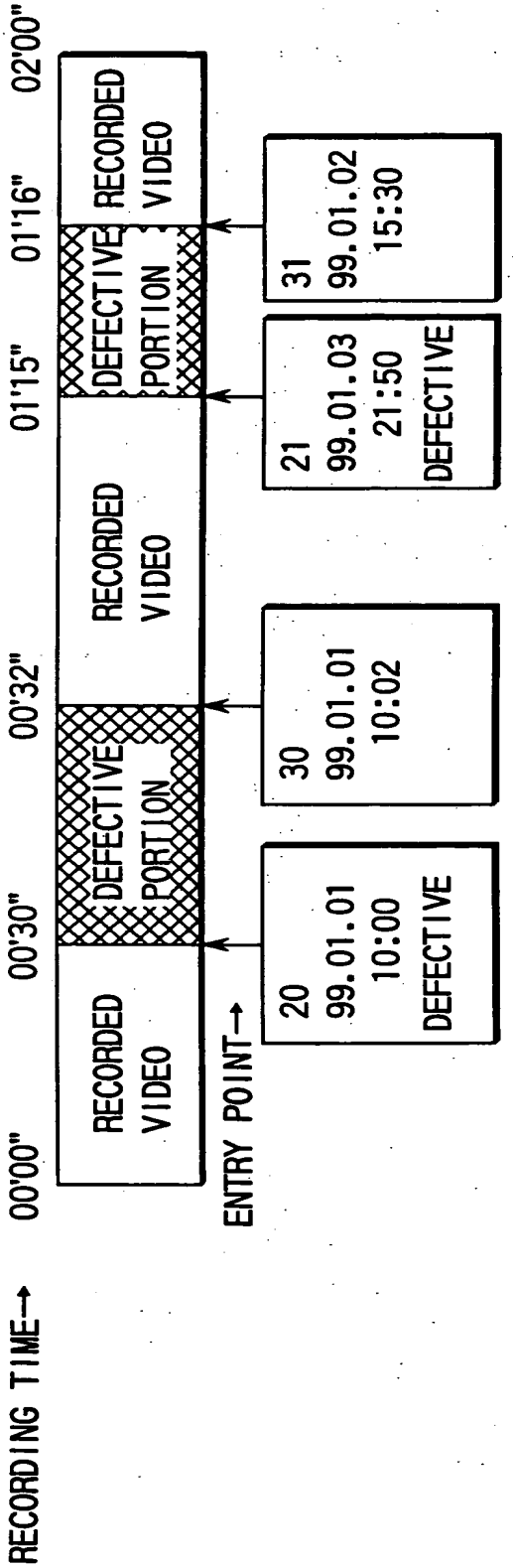

RECORDING TIME→
00'00"
00'30"
00'32"
01'15"
01'16"
02'00"
RECORDED VIDEO
DEFECTIVE PORTION
RECORDED VIDEO
DEFECTIVE PORTION
RECORDED VIDEO
ENTRY POINT→
20
99.01.01
10:00
DEFECTIVE
30
99.01.01
10:02
21
99.01.03
21:50
DEFECTIVE
31
99.01.02
15:30

FIG. 44

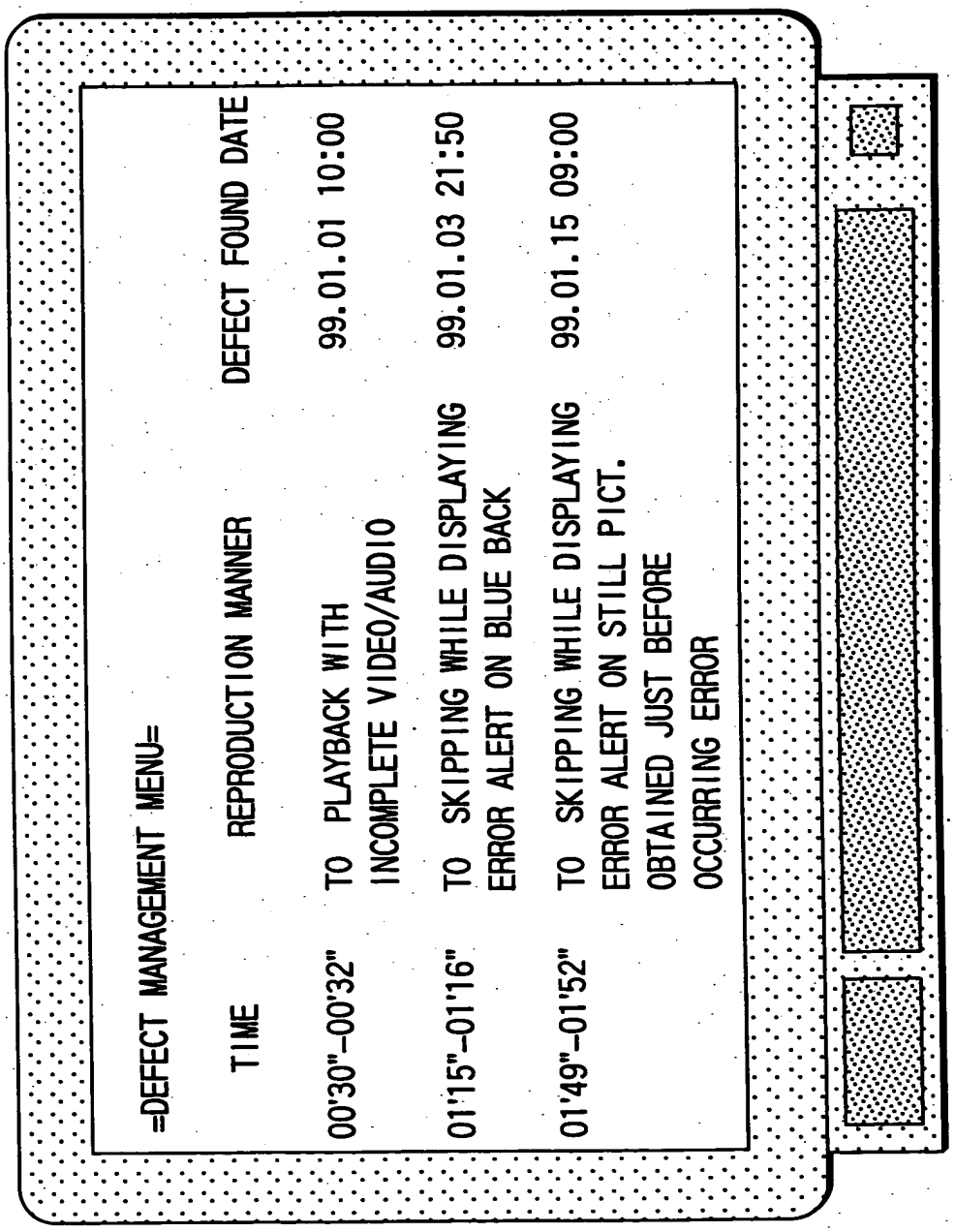

=DEFECT MANAGEMENT MENU=
TIME
REPRODUCTION MANNER
DEFECT FOUND DATE
00'30"–00'32"
TO PLAYBACK WITH INCOMPLETE VIDEO/AUDIO
99.01.01 10:00
01'15"–01'16"
TO SKIPPING WHILE DISPLAYING ERROR ALERT ON BLUE BACK
99.01.03 21:50
01'49"–01'52"
TO SKIPPING WHILE DISPLAYING ERROR ALERT ON STILL PICT. OBTAINED JUST BEFORE OCCURRING ERROR
99.01.15 09:00

FIG. 45

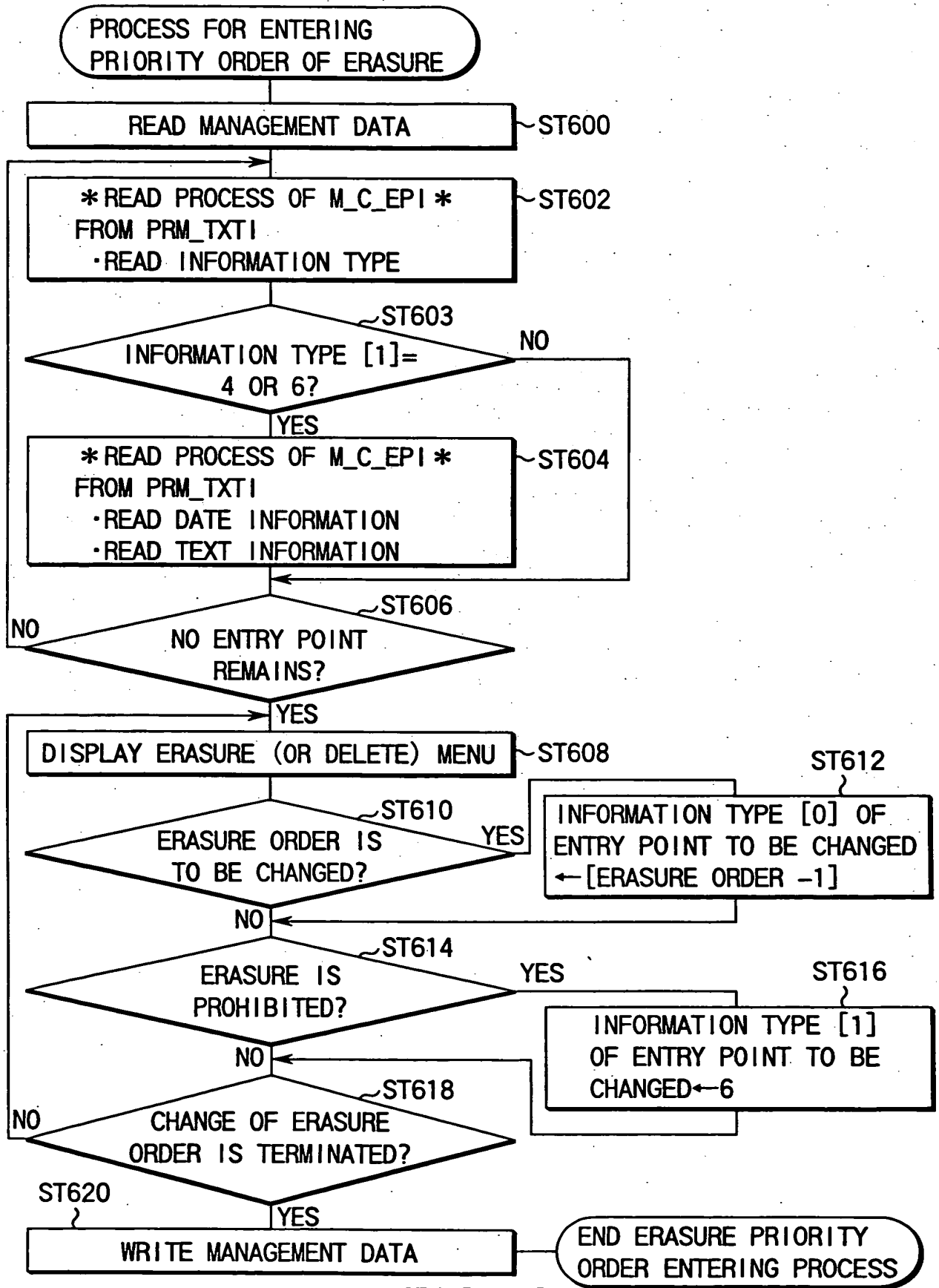

PROCESS FOR ENTERING PRIORITY ORDER OF ERASURE
READ MANAGEMENT DATA
ST600
*READ PROCESS OF M_C_EPI*
FROM PRM_TXTI
·READ INFORMATION TYPE
ST602
ST603
INFORMATION TYPE [1]= 4 OR 6?
NO
YES
*READ PROCESS OF M_C_EPI*
FROM PRM_TXTI
·READ DATE INFORMATION
·READ TEXT INFORMATION
ST604
ST606
NO ENTRY POINT REMAINS?
NO
YES
DISPLAY ERASURE (OR DELETE) MENU
ST608
ST610
ERASURE ORDER IS TO BE CHANGED?
YES
ST612
INFORMATION TYPE [0] OF ENTRY POINT TO BE CHANGED ←[ERASURE ORDER -1]
NO
ST614
ERASURE IS PROHIBITED?
YES
ST616
INFORMATION TYPE [1] OF ENTRY POINT TO BE CHANGED←6
NO
ST618
CHANGE OF ERASURE ORDER IS TERMINATED?
NO
YES
ST620
WRITE MANAGEMENT DATA
END ERASURE PRIORITY ORDER ENTERING PROCESS

FIG. 46

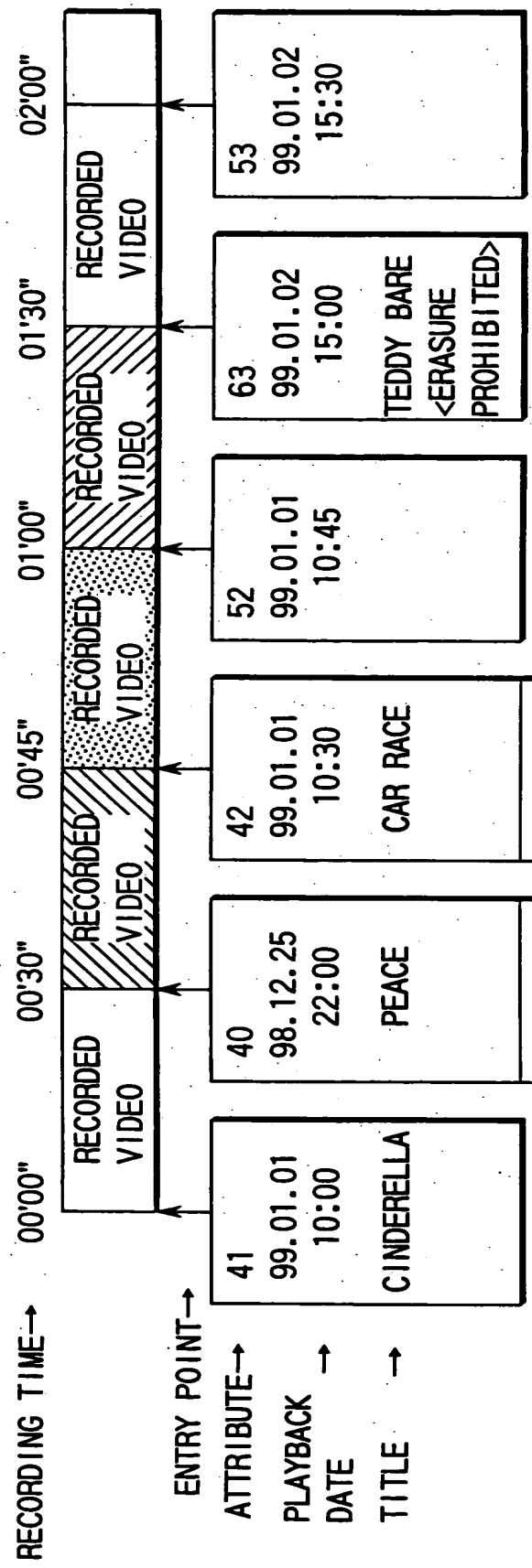

RECORDING TIME→
00'00"
00'30"
00'45"
01'00"
01'30"
02'00"
ENTRY POINT→
ATTRIBUTE→
PLAYBACK DATE →
TITLE →
RECORDED VIDEO
RECORDED VIDEO
RECORDED VIDEO
RECORDED VIDEO
RECORDED VIDEO
41
99.01.01
10:00
CINDERELLA
40
98.12.25
22:00
PEACE
51
99.01.01
10:30
42
99.01.01
10:30
CAR RACE
50
98.12.25
22:15
52
99.01.01
10:45
63
99.01.02
15:00
TEDDY BARE
<ERASURE
PROHIBITED>
53
99.01.02
15:30

FIG. 47

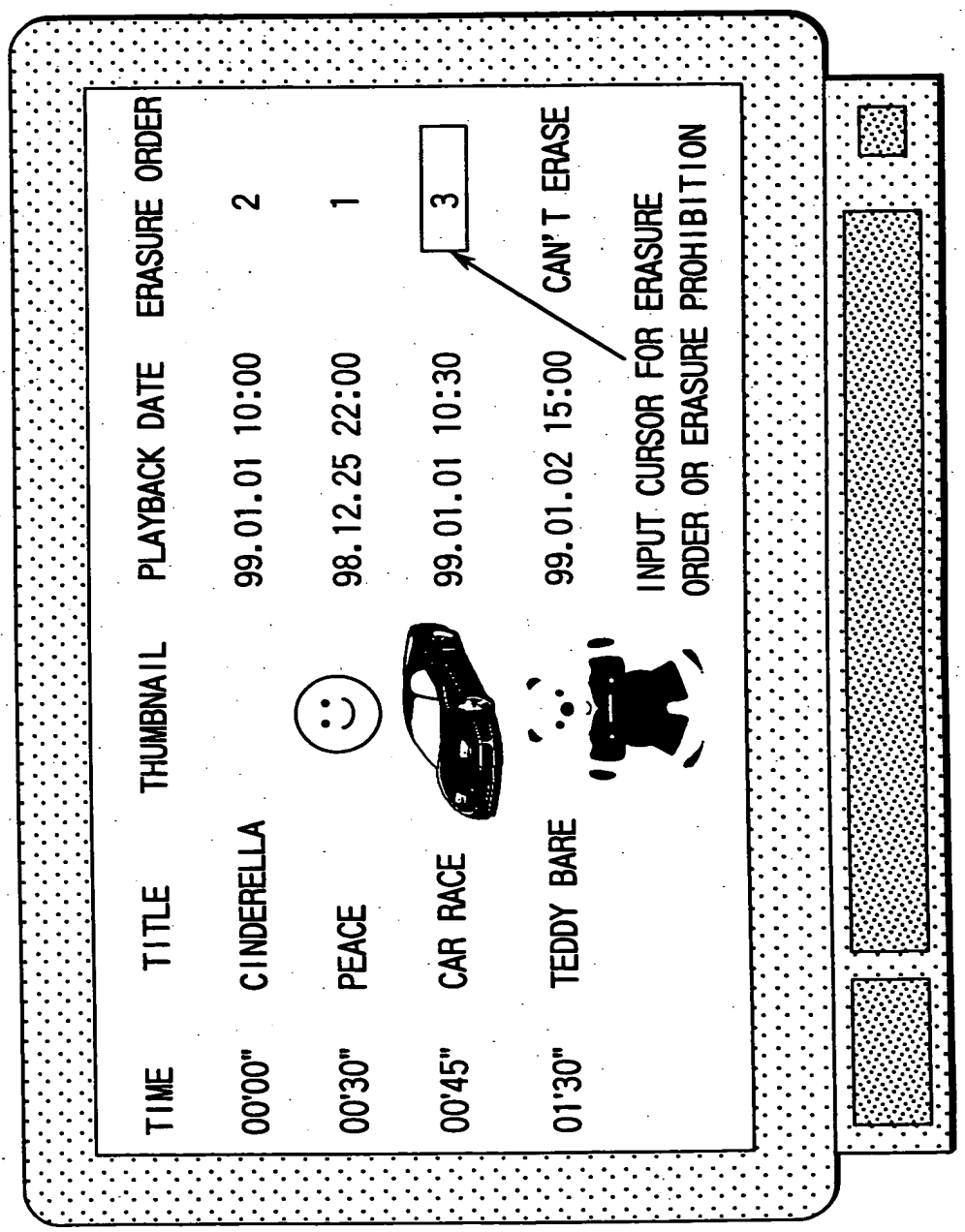
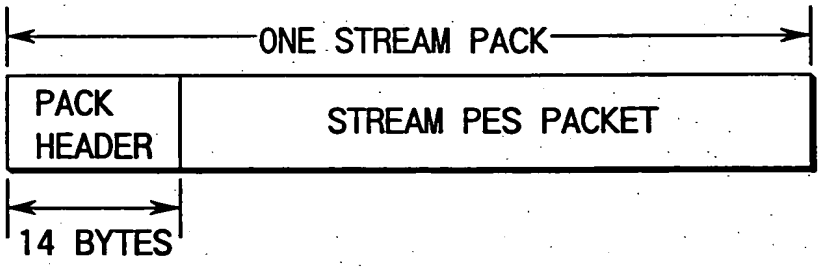

TIME
TITLE
THUMBNAIL
PLAYBACK DATE
ERASURE ORDER
00'00"
CINDERELLA
99.01.01 10:00
2
00'30"
PEACE
98.12.25 22:00
1
00'45"
CAR RACE
99.01.01 10:30
3
01'30"
TEDDY BARE
99.01.02 15:00
CAN'T ERASE
INPUT CURSOR FOR ERASURE
ORDER OR ERASURE PROHIBITION

FIG. 48

FIG. 49


ONE STREAM PACK
PACK HEADER
STREAM PES PACKET
14 BYTES

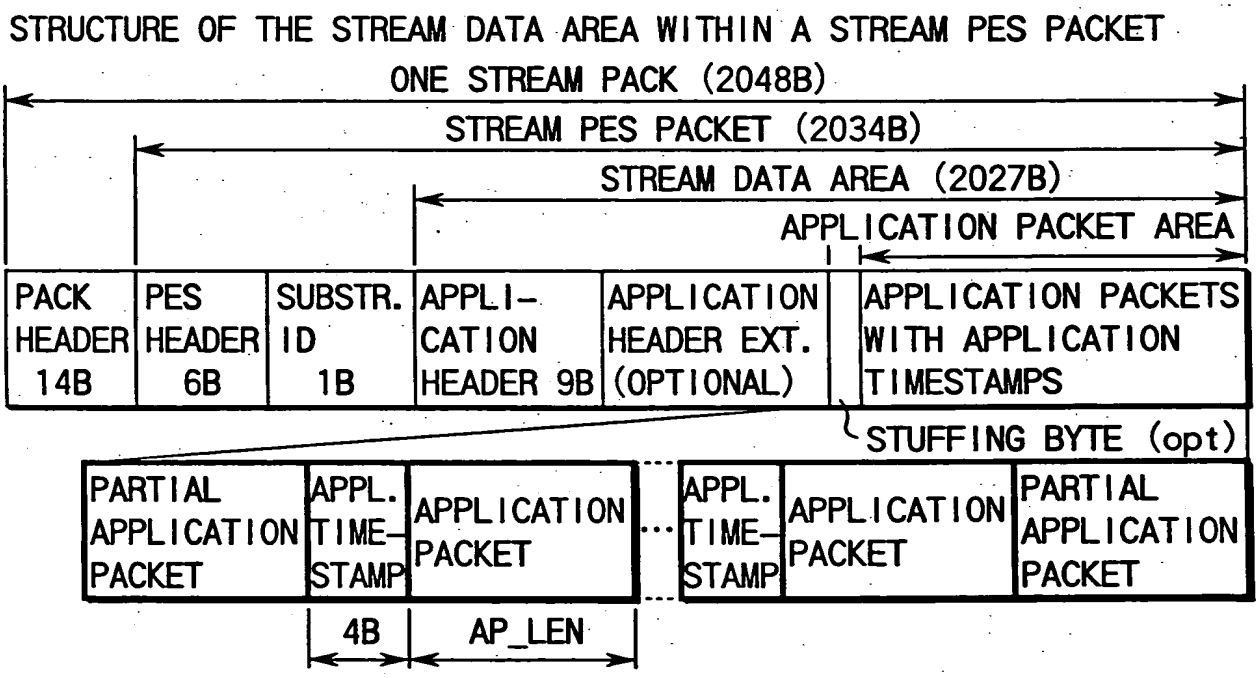

STRUCTURE OF THE STREAM DATA AREA WITHIN A STREAM PES PACKET
ONE STREAM PACK (2048B)
STREAM PES PACKET (2034B)
STREAM DATA AREA (2027B)
APPLICATION PACKET AREA
PACK HEADER 14B
PES HEADER 6B
SUBSTR. ID 1B
APPLI-CATION HEADER 9B
APPLICATION HEADER EXT. (OPTIONAL)
APPLICATION PACKETS WITH APPLICATION TIMESTAMPS
STUFFING BYTE (opt)
PARTIAL APPLICATION PACKET
APPL. TIME-STAMP
APPLICATION PACKET
APPL. TIME-STAMP
APPLICATION PACKET
PARTIAL APPLICATION PACKET
4B
AP_LEN

FIG. 50

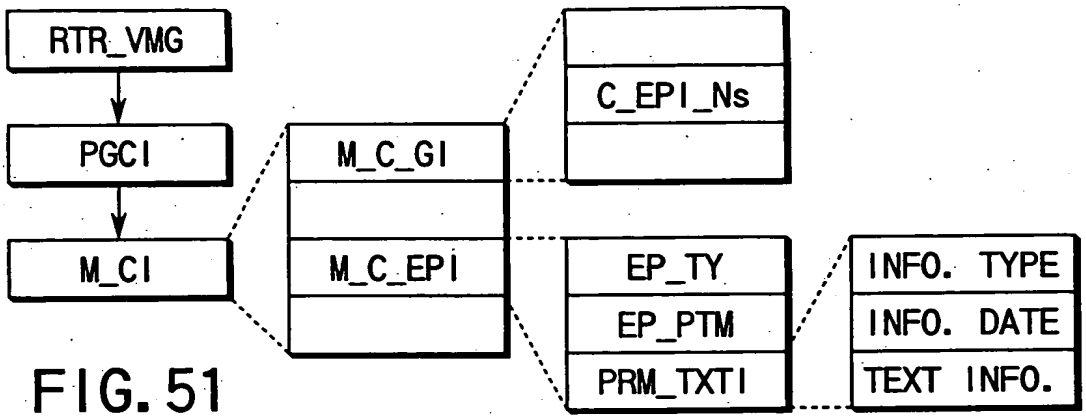



FIG. 51

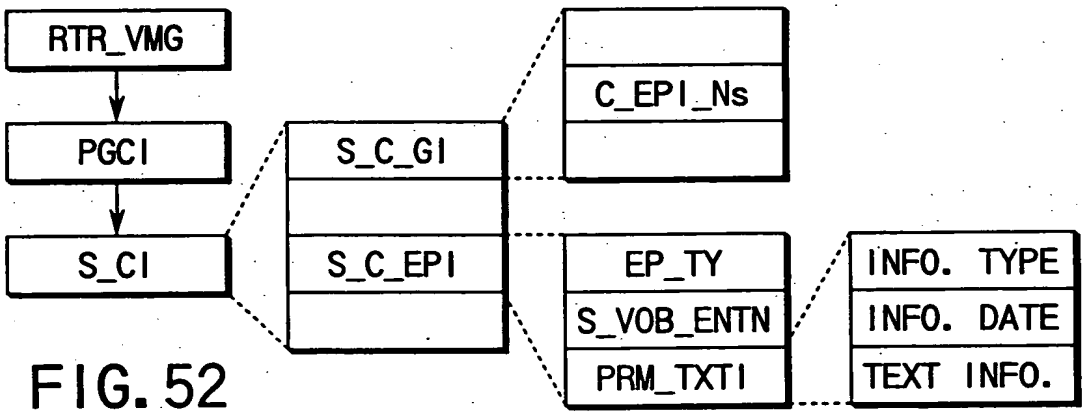



FIG. 52

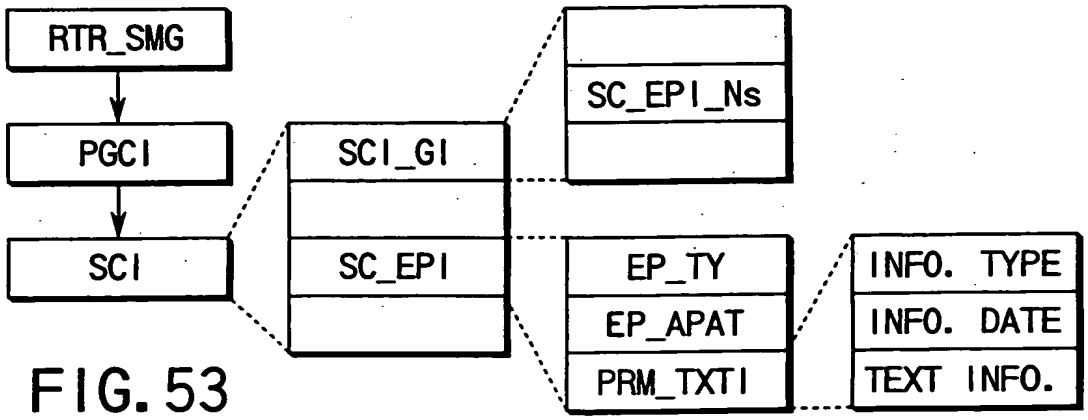



FIG. 53